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CROCODILUS JOHNSONI KREFFT.

BY HEBER A. LONGMAN, DIRECTOR.

(Plates XXIII-XXIV.)

ALTHOUGH described by Krefft so long ago as 1873, but little attention has been given to the Long-snouted or Freshwater Crocodile, *Crocodilus johnsoni*. In his valuable studies of skull characters of recent Crocodilia, C. C. Mook was able to give only a brief description, owing to absence of material. The following notes are mainly based on cranial material, but some other characters have been outlined and may be of value to systematists. A paper of this kind might be expanded into an elaborate monograph, but only such cranial and other characters as appear to be of special interest have been dealt with.

The following are references to literature :—

Crocodilus johnsoni, Krefft, Proc. Zool. Soc., 1873, p. 334-5.

Philas johnstoni, Gray, Proc. Zool. Soc., 1874, p. 177-8, Pl. 27.

Crocodilus johnstoni, Boulenger, Brit. Mus. Cat. Chel., Rhynch & Croc., 1889, p. 279 (Port Darwin); F. Hann, Pr. Roy. Soc., Qld., xvi., 1901, p. 21 (Phillips River, West Australia); Ogilby, Pr. Roy. Soc., Qld., xviii., 1904, p. 201; xix., 1907, p. 4; Basedow, Pr. Roy. Geograph. Soc. Aus. (S.A. Br.) xviii., 1918, p. 226 (Forest River, North-West Australia); Lucas & Le Souef, Animals of Australia, 1909, p. 189, photograph from life by A. E. H. Mattingley; C. C. Mook, Bull. Amer. Mus. Nat. Hist., xlv., 1921, p. 173.

It will be noted that Krefft first described this crocodile specifically as *johnsoni*, but subsequently altered the spelling to *johnstoni*, as it was found by "Mr. Johnston, of Cardwell," Queensland.*

* The late Sub-Inspector Robert Arthur Johnstone, of the Queensland Police, contributed to the Brisbane Press the following account of his discovery, for which I am indebted to Mr. Edgar Young, son-in-law, who is Honorary Collector to the Queensland Museum :—

"The Herbert is the only eastern water in Australia in which is found the *Crocodilus johnstonii*, so named after the writer, who sent the first named specimen down which he shot in the Herbert, near the mounted police camp, at Cashmere, on the Upper Herbert. When I shot it I thought it was a freak, and not a distinct species, but sufficiently peculiar to forward as a Museum specimen; but after shooting many specimens all possessing the same peculiarities, I was satisfied it was a new species, being much smaller and perfectly harmless, as was proved by the fact of the piccaninnies, puppies, and all hands constantly "bogeying" in the same reach of the river where the crocodiles were seen daily. Of all the numbers I shot I carefully opened them to examine the state of the larder, and never found anything larger than a water rat in it, with some lobster shells, stones, and moss, in each case the largest quantity being stone pebbles, to help digestion, I presume. The skin and flesh have a very strong smell of musk; in fact, after opening one it is impossible to get rid of the smell of musk for days, no matter how one tries. They are only found above the Herbert Falls, and the *C. porosus* below the falls. . . . *C. johnstonii* is harmless, and makes a nest of leaves, grass, and sand, forming a mound in which the eggs are buried."

Material.—The specimens in the Queensland Museum are—

J. 4279. A juvenile, 295 mm., in spirits. Wickham River, off Victoria River, Northern Territory, Mrs. T. Graham.

J. 4283. A mounted specimen, juvenile, 740 mm. Locality doubtful.

J. 4278. A mounted specimen, 2,273 mm. Burketown, F. H. Hann.

J. 2788. Skin and skull, 2,343 mm. Hulbert's Hole, Flinders River, 35 miles below Richmond, N.W. Qld., F. L. Berney.

J. 4277. Skin and skull, smaller than above, damaged; same locality.

There are also four isolated crania, the largest (*J.* 4286) being 398 mm. from the anterior end of snout to the supra-occipital, and the smallest 262 mm.

The skin and skull sent in by Mr. F. L. Berney, from the Flinders River, 7 ft. 8¼ in. or 2,343 mm. in length, appears to be the record for the species (length of skull, snout to supra-occipital 375), but as the aged skull (*J.* 4286) is considerably larger it is obvious that this freshwater Crocodile reaches about 8 ft.

Chief Cranial Characters.—Skull small, with elongated snout. Cranial table flattened. Premaxillæ but little expanded; bony nasal septum absent; no very dominant notches. Anterior portion of nasals sometimes hidden beneath premaxillaries. Dentition: Upper jaw 19 to 21; lower jaw 15 to 17, with occasional presence of double functioning teeth. Frontal-parietal suture anterior to supratemporal fenestræ; maxillo-palatine sutures extending far anterior to palatine fenestræ. Quadrato-jugals with anterior fenestral processes. Mandibular symphysis ends between 6th and 7th teeth; splenial extending forward nearly to symphysis.

Superior Surface.—In general contours the skull resembles that of *Crocodylus cataphractus*, which in turn approaches that of *Tomistoma schlegelii*. The distance from the anterior border of the orbits to the tip of the snout is more than twice the breadth at the termination of the dental arcade in old specimens, and nearly three times this breadth in immature specimens.

Premaxillaries.—These are much longer than broad, and have prolonged posterior processes near the median line which may extend as far back as the third maxillary teeth, and which separate the nasals from the maxillæ in this region. The maximum length apart from the processes is at least twice the breadth at the notches. Except in the largest cranium these bones are not greatly expanded laterally beyond the line of the maxillaries. There are three lateral notches for the accommodation of the second, third, and fourth mandibular teeth on each side, the latter being the largest. The external narial aperture is somewhat variable in shape in the four specimens examined, being oval in the smaller and almost circular in the largest cranium. It is slightly smaller than a supratemporal fenestra. The anterior border is relatively smooth. The premaxillo-maxillary suture passes obliquely and irregularly backward to the attenuated processes, from whence it passes back at a very acute angle to the end of the bone and then returns forward, also very acutely, beside the nasal to meet its fellow on the median line. This suture is not completely shown on Plate XXIII.

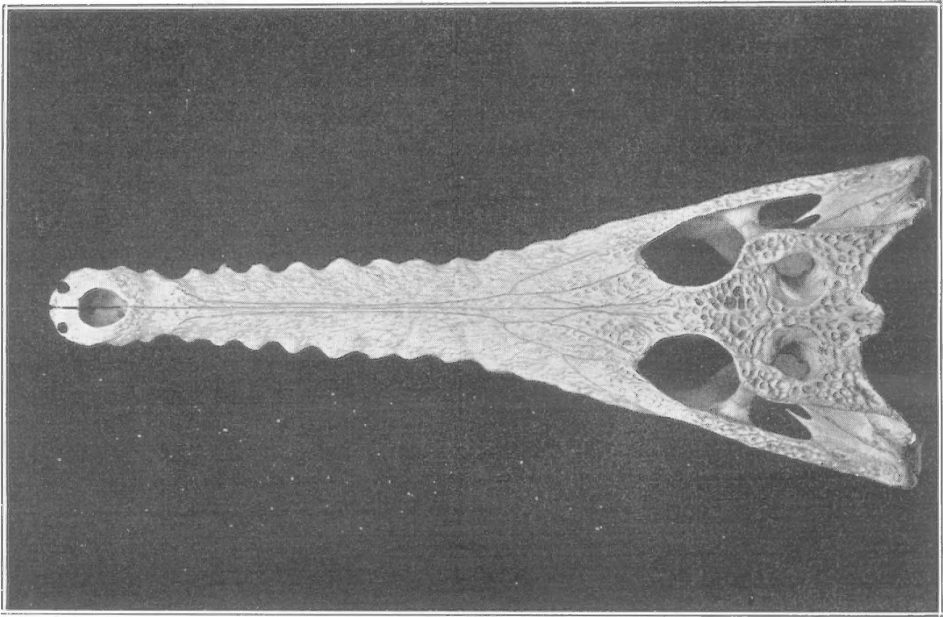


Fig. 1.—*Crocodilus johnsoni*. Superior surface of cranium. J. 4280.
Length 266 mm.

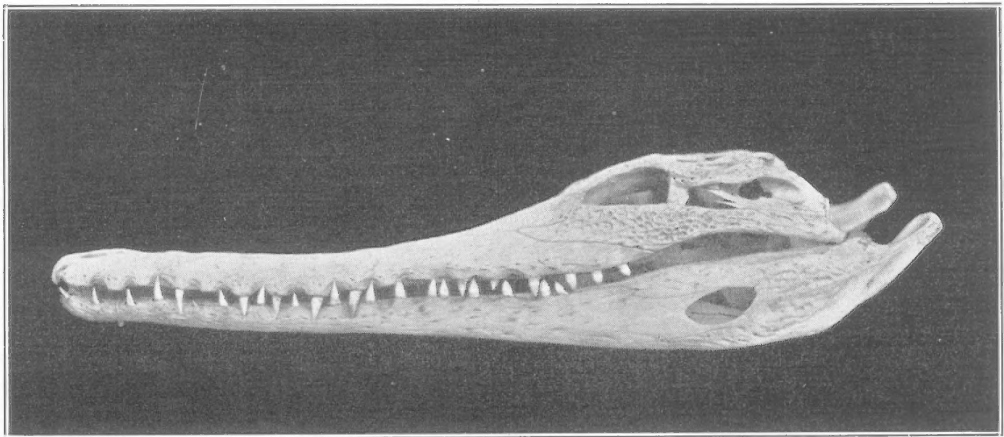


Fig. 2.—*Crocodilus johnsoni*. Lateral view of cranium. J. 4280.



Maxillaries.—These elongated bones form by far the greater portion of the preorbital region, and owing to the narrowness of the nasals their superior borders come very close to each other. Boulenger's statement that the maxillaries form a median suture above, behind the nasal opening, is incorrect for our specimens, and Mook interprets "maxillaries" as a misprint for premaxillaries. The nasal bones are so attenuated, however, that it would not be surprising if specimens were found in which the second anterior elements actually met in the median line, hiding the nasals for a short distance. The length of the maxillo-nasal suture, which is fairly straight, is about equal to the maximum breadth of the maxillæ at the posterior end of the dental arcade. The suture with the lachrymal is less than half the length of that with the jugal or malar. In transverse section the maxillæ are very convex, and, except in the posterior region, the lateral borders are prominently notched for the accommodation of the mandibular teeth.

Nasals.—These are the most attenuated bones of the skull, the maximum length being about ten times the greatest breadth. Examination of a partially disarticulated skull shows that the anterior fifth, or so, of the nasals may be prolonged beneath the premaxillaries, and it seems probable that the extreme points always reach the external nares. On the surface the acuminate anterior processes separate the posterior branches of the premaxillæ. Posteriorly the nasals are divided by the frontal process. The relative proportions of the sutures with the lachrymals and with the prefrontals vary somewhat in the four crania examined, but the areas of contact are about equal. The nasals attain their maximum breadth opposite the anterior ends of the lachrymals.

Lachrymals.—These bones are broader and longer than the prefrontals; anteriorly they appear to broaden with age, and the inner and lateral borders are parallel in the prefrontal region. The suture with the prefrontal is about two and a-half times as long as that with the nasal. The suture with the jugal is about equal to the length of the orbit. On the postero-internal border near the ventral surface there is a large single opening for the lachrymal duct. The orbital border is not prominently raised.

Prefrontals.—These bones are sub-triangular, but the frontal border is curved inwards and the anterior processes are wedged between the nasals and lachrymals. The suture with the nasal is about half the length of that with the frontal. The anterior border of the orbit is formed by the prefrontal and lachrymal in about equal proportions.

Frontal.—The length of this bone is slightly greater than the breadth of the cranial table, about half being formed by the acuminate anterior process, which divides the nasals for a short distance. The widest portion is just posterior to the suture with the postfrontals. The posterior border is curved backwards. From the beginning of the suture with the prefrontals the bone is sharply curved inwards to the anterior process. The portion between the orbits is very concave in immature skulls, but flattens with age. The orbital border is not ridged as in *C. porosus*.

Orbits.—In young specimens the transverse diameter of the orbit is greater than that of the frontal, but in mature and aged examples these proportions are reversed. Each cavity is much larger than the infratemporal vacuity and tends to become more oval with age.

Cranial Table.—The supraoccipital, parietal, squamosals, postfrontals, and the posterior portion of the frontal form a flat cranial table, but the anterior elements are elevated to form the raised border of the orbits. The plane of this table is parallel with that of the dental arcade. The lateral borders lightly converge anteriorly and the posterior border is a double curve. The interorbital region is concave, especially in half-grown specimens. The pits in this area are deeper than elsewhere.

The supratemporal fenestræ are oval cavities, with obliquely sloping internal borders. The transverse diameter of each is about equal to the interorbital space. The parietal contributes the internal moiety, whilst the squamosal section exceeds that of the postfrontal. The junction of the parietal, frontal, and postfrontal sutures is about midway between the cavity and the orbits.

The ratios of the breadth of the cranial table and that of the cranium across the quadrato-jugals in juvenile and old specimens are similar to those recorded by C. C. Mook for *Crocodylus americanus* (loc. cit., p. 59). In our juvenile specimen 295 mm. in length, the breadth of the cranial table is almost equal to that of the cranium, being 18 mm. as compared with 22 mm. In our largest skull, 398 in length, the breadth of the cranial table, taken across the centres of the fenestræ, is 87 mm., whereas the maximum at the quadrato-jugals is 198.

Jugals.—The zygomatic bones are only exceeded in length by the maxillæ and nasals, and even in the oldest specimen the vertical depth is contained over four times in the length. The portion in front of the postorbital process is about equal to that behind, which reaches almost to the region of the articular facets of the quadrate.

Quadratojugals.—The anterior processes of these bones are acutely pointed and extend about half way across the infratemporal fenestræ. The area of contact with the quadrate is much greater than that with the jugal. The lateral borders converge somewhat anteriorly.

Quadrates.—There are no special characters associated with these bones.

In the development of the skull the maximum breadth across the quadratojugals is always less than half the length from the tip of the snout to the supraoccipital, as may be seen from the following figures:—

	Total length of specimens.	Cranial length.	Cranial breadth.
<i>J. 4279</i> Juvenile	295	47	22
<i>J. 4283</i> Juvenile	740	127	52
<i>J. 4280</i> Skull only .. ..	..	262	105
<i>J. 2788</i> Skin and Skull ..	2,343	375	165
<i>J. 4286</i> Skull only, aged ..	..	398	198

The development of the slender snout and the change in contours with age may be shown by comparing the length, taken from the tip of the premaxillaries to the anterior border of the orbits, with the maximum breadth of the maxillaries taken below this orbital border.

					Pre-orbital length.	Breadth of Maxillæ.
<i>J. 4279</i>	..	..	..	..	24	14
<i>J. 4283</i>		..	..	..	82	31
<i>J. 4280</i>		..	..	..	194	64
<i>J. 2788</i>		..	..	..	280	102
<i>J. 4286</i>	..	..	..	..	285	129

It will be seen that the juvenile specimen (*J. 4279*) is relatively short-snouted; that in the medium-sized skull the length of the snout may be thrice the breadth of the maxillaries at this point; and that the aged skulls are again less slender. The variability of the snout is illustrated by the proportions of the two large skulls, *J. 2788* and *4286*, the latter being relatively much broader at the orbits.

Palatal Surface.—The anterior portion of the premaxillaries is very irregular owing to the perforations for the accommodation of the two anterior mandibular teeth and the sloping cavities behind. The premaxillary foramen is an irregular triangular cavity, about as large as an alveolus of an average tooth, behind which the conjoined elements have a suture which is at least four times as long as that in front of the foramen. The suture between the premaxillæ and maxillæ passes obliquely backward from the centre of the large notches, but only extends to the second maxillary tooth at the median junction.

The maxillaries form the greater part of the palate. From the posterior end at a point nearly opposite from the pterygoid-palatine suture, the dental arcade converges markedly to the region of the seventh maxillary teeth, but from thence forward the snout becomes very gradually more slender until the enlarged notches are reached. The proportions of the palate vary so much with age that no exact ratios can be applied to both juvenile and aged skulls, but the central breadth of the conjoined elements is contained at least thrice in the maximum length, and may be five times. In antero-posterior profile the maxillæ are decidedly convex, but in one skull, probably as the result of injury, the anterior region is very concave. In transverse section the palate is fairly flat, but the alveolar borders are irregularly raised. The median line is marked by ridges in the anterior region and there may be a depression posteriorly. A lengthy suture is formed with the anterior process of the palatines and a much shorter one marks the lateral extension of each palatine to the front edge of the fenestra.

The palatines contribute about one-third of the total length of the bony palate. The breadth is equal to the maximum transverse diameter of the adjoining fenestra, and in the smaller crania this area is very flat in transverse section, but in the large skull the lateral borders are broadly rounded. In antero-posterior profile these bones are concave. The anterior processes are elongate and acuminate, and are almost as long as the main portion. The lateral portions of the suture with the pterygoids are curved backwards.

The greater part of each palatine fenestra is contained within the area of the dental arcade, and, except in aged skulls, the breadth is contained at least three times in the length. The fenestræ extend as far forward as the anterior borders of the eleventh maxillary teeth.

Pterygoids.—The palatal plates of the pterygoids are concave, both transversely and in antero-posterior direction. The maximum length of each element is greater than the breadth and is equal to that of the palatine without its anterior processes. They contribute the posterior border to the palatine fenestræ. The internal narial aperture is large and sub-quadrangular and opens downwards and backwards. Its posterior border, which is divided by a prominent median wedge, forms the termination of the bony palate below the opening of the median Eustachian canal.¹ The inferior portion of the median ridge of the vertically placed basioccipital is seen in this aspect.

Basisphenoid.—The basisphenoid may not appear in this region, although it is sometimes represented by an attenuated wedge. We may thus have the *pterygoids actually articulating with the basioccipital on the surface*, although separated above.

The transpalatines or ectopterygoids have a longer contact with the maxillaries than with the jugals or with the pterygoid plates. These bones present no special characteristics.

Dentition.—Although the usual number of teeth in the upper jaw is nineteen on each side, with fifteen in the lower, there may be as many as twenty-one above and seventeen below.

There are the usual five teeth in each premaxillary, the fourth being the largest and the third only slightly less. The first is set near the median line and is closely paired with its fellow. After a space the second and third are set close together and an interval separates the fourth and fifth. The teeth in the maxillary vary from fourteen to sixteen. The fifth tends to be the most robust of the series, and this is slightly larger than the fourth mandibular. The posterior teeth in both jaws are considerably stouter and somewhat shorter than the anterior. The apices of the first seven teeth are accommodated in lateral notches in the mandible.

The first pair of mandibular teeth perforate the premaxillaries and their apices may be seen on the upper surface of the snout. The fourth tooth is raised somewhat above its fellows. There may be as many as seventeen in the series, and the second to the tenth, inclusive, are accommodated in notches in the maxillaries when the jaws are closed. The posterior teeth range inside the maxillary series.

Two of our specimens have twenty-one upper and two (including *J. 4279*, juvenile) have twenty, whilst four of the mandibles have more than fifteen teeth.

Double Teeth.—A remarkable feature is the appearance in several specimens of double-functioning teeth in either the maxillaries or the mandible

¹ Owen, Phil. Trans. Roy. Soc., 1850, p. 521.

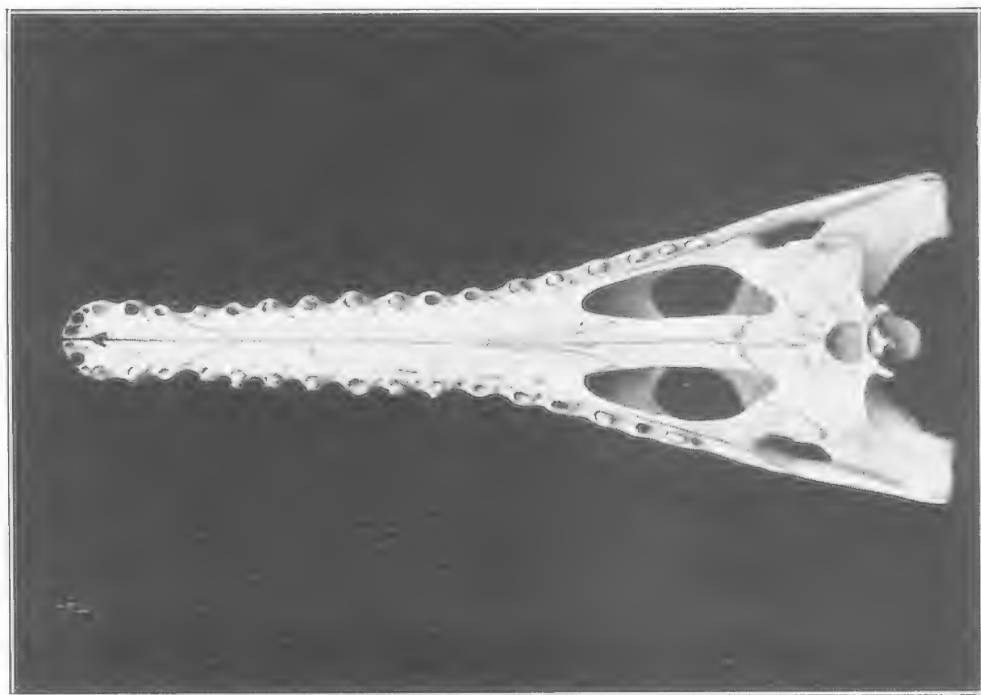


Fig. 1.—*Crocodilus johnsoni*. Palatal surface of cranium. J. 4280.

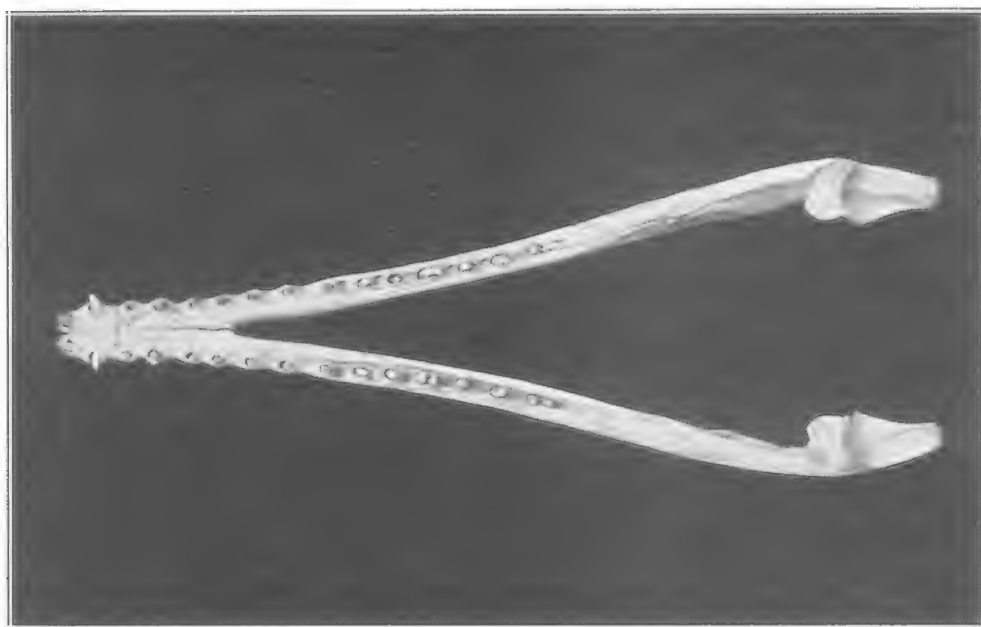


Fig. 2.—*Crocodilus johnsoni*. Mandible of cranium. J. 4280.



on one or both sides. These double teeth are mostly of equal size, set close together antero-posteriorly in a compound alveolus, and they are the twelfth and thirteenth of both upper and lower series. Two pairs of these teeth may be seen in Plate XXIV., Figure 2.

In the youngest specimen there are six teeth beneath the orbits, whilst in the aged skull only one and a moiety of a second come within this region. This change during development has been recorded for other species by Mook.

Mandible.—The symphysis extends to between the sixth and seventh teeth. The splenial approaches but does not enter the symphysis. No other special characters of the mandible have been noted.

Dermal Armour.—In *Crocodylus johnsoni* there is a postoccipital series of four oval keeled scutes arranged transversely, as in *C. palustris*, figured by Gadow.² The middle pair are usually the larger, and are separated on the median line. The outer pair are in juxtaposition with the middle pair, one on each side, and their lateral borders are oblique. This series is separated from the nuchal scutes by a greater interval than it is from the occipital.

The nuchal series is actually an anterior phalanx of the dorsal, being almost continuous with them. The anterior pair of the series is the largest, and this is followed by a slightly smaller pair. On the emarginated lateral borders of these four scutes are a still smaller pair, one in juxtaposition on each side. These six keeled scutes are narrowly separated from two consecutive pairs which are in turn followed by a series of four transverse scutes. The regular dorsal series of six begins behind these, and in the mid-dorsal region there may be several rows with eight large bluntly keeled scutes, but the lateral members are somewhat irregularly placed. In antero-posterior direction these scutes slightly overlap, the front edge of one series being bevelled to fit under the posterior edge of the preceding series. Medio-dorsally the majority of the scutes are articulated by sutures.

From the first row of four transverse scutes to the region above the cloacal slit there are eighteen series, the scutes being reduced to transverse series of four between the hind limbs. The caudal scales are in thirty-eight series, and the bifurcation of the usual vertical fringe commences at about half the length.

Other Characters.—In the juvenile specimen the length of the tail slightly exceeds that of the head and body, but in adult specimens the caudal portion is distinctly shorter. The fore limbs are smaller than the posterior ones, which carry a serrated fringe on the outward edge. There is no sign of webbing between the digits of the fore limbs, but the two outer digits of the hind feet are extensively webbed, the membrane being carried to near the tip of the clawless member. In the juvenile specimen the ear opening, when exposed from the overlying flap, is slightly smaller than the eye.

Habits.—Several observers, including F. W. Hann, note that this crocodile is harmless and feeds principally on fish. Lucas and Le Souef say that "residents will swim without fear in pools in company with the saurians."

² Gadow, *Amphibia and Reptiles*, Camb. Nat. Hist., 1909, p. 455.

In Jeannie Gunn's interesting book, "The Little Black Princess," a lubra states that the sea-going crocodiles were "cheeky fellow" and would "round you up," but the crocodiles in the land-locked pools were "frightened fellow" and it was always safe to take their eggs.

Rostral Plasticity.—Gadow has pointed out that since Jurassic times there have been two parallel lines of development in the Crocodilia, instancing the long-snouted *Tomistoma* and *Gavialis* and the more broad and short-snouted members like the rest of the Crocodiles and Alligators (loc. cit., p. 435), but that there exist many intermediate forms. It is obvious that some species of *Crocodylus* have developed an almost gavial-like snout, evidently in association with certain food habits. The remarkable plasticity of the cranial rostrum was noted by the writer when dealing with the Queensland Ichthyosaur,³ and interesting parallels could be made between the tendency to an elongated snout in such diverse groups as the Ichthyosauria, Eusuchia, and Cetacea. The architecture of the posterior region of the skull has been studied by several authorities (E. C. Case, W. K. Gregory, etc.), who have partly explained the structure of certain elements as largely conditioned by stresses induced by muscles, but it is of interest to note that the varying contours of the rostrum are scarcely to be associated with muscular action. Rostral elongation is probably an inherited tendency, dominant in certain species, that originally developed in response to the stimuli of special food environments, partly checked or increased by selection.

Generic Status.—The seven species of *Metriorhynchus* figured by C. W. Andrews⁴ afford a striking instance of plasticity in crocodilian species from the Oolite. This variation in rostral contours has to be borne in mind when dealing with the Crocodiles of to-day. Although it seems anomalous to keep within the same genus such diverse forms as *Crocodylus johnsoni*, *porosus*, and *robustus*, to say nothing of broad-snouted fossil species of the *robustus* and *sivalensis* type, the difficulties of making sub-generic distinctions are considerable. The writer has therefore preferred not to use Gray's genus "Philas" in the present paper. The slender-snouted species of *Crocodylus*, such as the Australian *johnsoni*, the West African *cataphractus*, and the South American *intermedius*, probably represent a parallel development rather than a closely related series requiring a distinctive name within the genus. They may thus be interpreted as illustrating Convergence.

Affinities.—*C. johnsoni*, although resembling *C. cataphractus* in general outlines, differs prominently in certain features such as the mandibular symphysis, the course of the premaxillo-maxillary suture, and the relative proportions of the elements forming the bony palate. It similarly differs from the African species, and it is most unlikely that its special characters have been derived from either of the others. This slender-snouted crocodile of the fresh-waters of Northern Australia has probably evolved within its own region from the more generalised crocodiles that were common in the past.

³ Longman, Mem. Qld. Mus., vol. vii., 1922, p. 255.

⁴ C. W. Andrews, Cat. Mar. Rept. Oxford Clay, pt. 2, 1913, Text-figure 73.

A CROCODYLIAN FOSSIL FROM LANSDOWNE STATION.

By HEBER A. LONGMAN, DIRECTOR, QUEENSLAND MUSEUM.

(Plates XXV–XXVI, Figure 1.)

DURING the course of excavating a large “tank” at Lansdowne Station, near Tambo, South-Central Queensland, in June, 1924, Messrs. Brace Brothers, contractors, discovered fossil remains to which some prominence was given in the Press. Mr. J. Armstrong, then manager of Lansdowne, kindly informed me that these were exposed by heavy plough and scoop work and extended over an area of about 40 ft., being embedded in clay overlying soft sandstone. As a result of correspondence, these remains were forwarded by Mr. F. Jack Brace, who generously donated them, on behalf of Messrs. Brace Brothers, to the Queensland Museum.

The great majority of the fossil fragments consisted of bones of two gigantic extinct kangaroos. Unfortunately no one of these bones, except a sacrum, is complete, but the fragments agree with material from the Darling Downs recognised here as *Palorchestes azael* and *Macropus anak*.

The most important specimen is the major portion of a large cranium, which is evidently conspecific with the extinct crocodilian from the Darling Downs described by De Vis as *Pallimnarchus pollens*.¹

Locality.—From information kindly supplied by Mr. L. E. Ball, B.E., Government Geologist, I am able to record the actual location of the tank, which is in the south-western part of portion 5 of parish of Metowra, about seven miles south-west of Metowra (Lansdowne) homestead, and about three miles west of the Ward River.

Mr. Ball, who saw the fossils at Tambo in December last, was informed that the majority of the bones were found within six feet of the surface, but that the cranium itself was unearthed at a depth of twelve feet.

Matrix.—The matrix in which the cranium was forwarded may be defined as a slightly ferruginous, calcareous, pebbly silt, containing clay iron-stone concretions. In this the cranium was lying with the palatal surfaces exposed. In the cavities several pebbles were found and the majority of these, with those in the matrix, were somewhat rounded. Small quantities of a very fine-grained, slightly ferruginous sandstone were present, and it seems probable that the underlying material mainly consisted of this.

The occurrence of the marsupial remains and this extinct crocodile so far to the north-west of the Darling Downs area is of special interest.

¹ De Vis, Proc. Roy. Soc. Qld., Vol. II, pp. 181-191, Plates X-XIV, 1886.

Mr. Ball informs me that the marine series was considered to extend southward across the Lansdowne country. These fossils are, however, a record of relatively recent freshwater deposits far within the borders of our extensive Cretaceous formation. Possibly these deposits at Lansdowne represent a filled-in valley, or an earlier course of the Ward River, formed in late Tertiary times in the uplifted floor of our vast Cretaceous sea.

As the cranium is the first fairly complete specimen to be received of this extinct crocodilian, additional interest is attached to the Lansdowne fossils.

PALLIMNARCHUS POLLENS De Vis.

Unfortunately the cranium was received in a fractured condition, the deposit not being suitable for good preservation. On exposure to the air the palatal and superior cranial surfaces were found to be very crumbly, and it was necessary to impregnate the whole cranium with an adhesive solution. In this process some of the sutures were perhaps made more obscure.

The cranium is complete to the posterior border of the frontal, with a length of 485 mm., and on the left-hand side a portion of the postfrontal (postorbital) is preserved. The superior surface is somewhat depressed in the posterior region of the nasals owing to pressure and partial fracture during fossilisation.

The specimen is of the brevirostrine type, and but for the presence of large premaxillo-maxillary notches it would be almost caimanoid in superior view. The external narial aperture is circular and is not divided by processes from the nasals. The sculpturing is moderate throughout the superior surface, but is deepest in the region between the anterior borders of the orbits. There are no longitudinal ridges as in *C. porosus*, and although the inner borders of the orbits are raised and thickened they are not prominently ridged.

In the plane of the superior surface of the cranium there is a decided concavity behind the premaxillaries, and as may be seen from Plate XXV, Fig. 2, the sides of the maxillaries are very prominently festooned.

Dentition.—As only one functioning tooth is complete *in situ*, the dentition is principally described from alveolar remains. Each premaxillary contains five teeth. The two anterior are relatively small and are set near to the border; then follow two enlarged teeth, those on the right side attaining 25 mm. at the alveolar border; behind these, in the inward curve of the large notch, is a smaller tooth. Close to the median line and immediately behind the two anterior teeth is a deep recess for the accommodation of the anterior mandibular tooth.

Each maxillary contains fourteen teeth. The fourth is predominantly enlarged, attaining a diameter at the base of 30 mm.; this tooth marks the maximum of the descending festoon behind the notch. The three anterior

teeth are subequal, and the three teeth subsequent to the enlarged fourth are smaller than the average; the tenth and eleventh are slightly larger than the average in the remainder of the series.

The dental arcade terminates in front of the orbits,² and this characteristic, as pointed out by Mook,² is a sign of maturity.

Detached Teeth.—Fragments representing a dozen teeth were forwarded with the cranium. These exhibit great variation, as is usual with crocodilians, and range from a large conical "canine," with a diameter of 27 mm., to small teeth only 9 mm. A single complete tooth is cylindrical, with a length of 60 mm. (enamel portion 15) and a diameter of 17 mm. Several of the fragments are laterally compressed, with prominent anterior and posterior carinae. The enamel surface is minutely rugose.

Palatal Surface.—Owing to the badly fractured condition of the bones forming the palate, the exact course of the sutures between the premaxillaries and the maxillaries cannot be satisfactorily traced; the suture apparently crosses the palate in a fairly straight line about 55 mm. behind the premaxillary foramen, this being approximately in the central line of the notches. Similar difficulties prevent a definite record of the suture between the palatine and maxillary elements, but from the antero-internal border of the palatine fenestrae it apparently goes forward obliquely to a point opposite the eighth maxillary tooth and then crosses to the median suture in a nearly straight line. The posterior region of the palatines is too much broken up to yield definite evidence.

Fenestrae.—The palatine fenestrae are large sub-oval vacuities, attaining at least 70 mm. in maximum breadth, this being nearly opposite the penultimate tooth. As in *C. porosus*, more than half of the lateral borders of these fenestrae are composed of the transpalatines or ectopterygoids, but as the posterior margins are incomplete these proportions cannot be more accurately stated.

The premaxillary foramen is much wider than long, and sufficient of its anterior edge is preserved to show that it is transversely oval, the dimensions being approximately 30 by 15 mm. Owing to the supporting plasticine, this foramen is partly obscured in Plate XXVI, Fig. 1.

Superior Surface.—The premaxillaries are broad and symmetrically convex bones and they extend well beyond the external narial aperture. Their maximum diameter is 165 mm., which is about two-fifths greater than their minimum length. The premaxillo-maxillary suture curves backward from the notch on each side until it reaches the mid-region of each element; then it curves forward to meet the nasals about 20 mm. from the external nares. This, as noticed by De Vis (*loc. cit.*) is an unusual characteristic in crocodilians,

² C. C. Mook, Bull. Amer. Mus. Nat. Hist., XLIV, 1921, p. 61.

the premaxillaries in most species having prolonged posterior processes adjoining the nasals. Two premaxillary fragments from Darling Downs deposits have been partly utilised in tracing these sutures.

The external narial aperture is sub-circular in form, with a length of 59 mm. and a breadth of 52 mm.

The nasals are 255 mm. in length and attain a breadth of 52 mm. They reach, but do not penetrate, the external narial aperture (which has no bony septum), and in this region they are very narrow. The course of the sutures is somewhat obscure in places, but it is evident that the nasals rapidly widen and that for about two-thirds of their length they are at least 50 mm. wide. Posteriorly they terminate in acuminate processes which meet the frontal wedge.

The frontal is imperfect posteriorly, but the bone is at least 110 mm. in length. The anterior process is abruptly acuminate, 55 mm. in length, and terminates 15 mm. in front of the orbits. The interorbital region is very concave, being 17 mm. below the plane of the ridges in the mid-region. The minimum interorbital diameter is 66 mm. Unfortunately the sutures between the prefrontals and lacrymals and between the lastnamed and the jugals cannot be satisfactorily traced, but there appear to be no special characteristics.

The orbits are very incomplete posteriorly; their maximum breadth is less than the interorbital diameter.

Original Type Material.—In his description of *Pallimnarchus pollens* De Vis used material from at least four specimens, and his associated registered material included fragments now recognised as belonging to *Crocodylus Nathani* (*loc. cit.*). The fragments from the frontal region described and figured by De Vis (Plate XIV, Fig. 2), in which the interorbital space is quite flat, evidently represent a species as yet unknown and for the elucidation of which more material is necessary. The left premaxillary described by De Vis is almost identical in general dimensions with the Lansdowne cranium.

The salient feature of the mandibular elements, which formed the principal part of De Vis' material, is the very broad symphysis, which terminates opposite the posterior border of the fifth tooth.

De Vis also stressed the significance of the flat, bevelled anterior edge of the associated body scutes, following Huxley's observations (Proc. Linn. Soc. Lond., IV, 1860, p. 21), as characteristic of the Alligatoridæ rather than of the Crocodylidae.

Affinities.—The general contours of the cranium, the dentition, the presence of large premaxillo-maxillary notches, and the absence of a bony nasal septum are characters that suggest affinities with the genera *Crocodylus* and *Diplocynodon*.



Fig. 1.—*Pallimnarchus pollens*. Superior view of Lansdowne cranium.
One-fourth natural size.

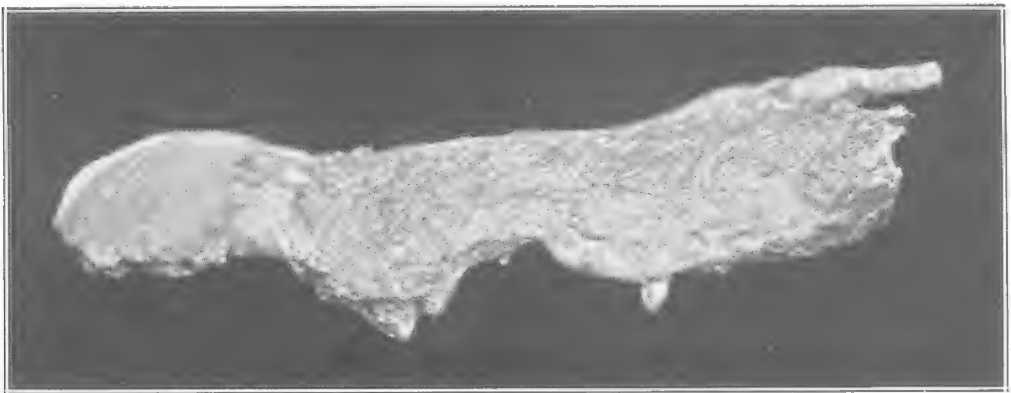


Fig. 2.—*Pallimnarchus pollens*. Lateral view of Lansdowne cranium.



The contours of the palate somewhat resemble those of Owen's *Crocodylus hastingsæ*,³ referred by Lydekker⁴ to *Diplocynodon hantoninesis* Wood, from the London Clay. The premaxillary foramen, however, is transversely oval, and the interfenestral table or palatine area is wider. The width of the cranium at the termination of the dental arcade is equal to the distance from the anterior of the rostrum to the palatine fenestræ. The maximum width of the premaxillaries is considerably more than half of the distance from the rostral tip to the fenestræ. In these proportions the Lansdowne fossil agrees better with *Crocodylus sivalensis*, figured by Falconer⁵ as *C. bombifrons*, but the cranium as a whole is relatively broader, and the external narial opening is by no means so large. The fossil has also been compared with *C. robustus*, from Madagascar, as described and figured by Charles C. Mook,⁶ but from that species it is widely separated by the absence of ridges, the dominance of the fourth maxillary tooth, the very prominent festooning, etc.

The marked distinctions between the mandibular elements of *Pallimnarchus pollens* and *Crocodylus Nathani*⁷ may be supplemented by comparisons with the type material of the last-named with the Lansdowne cranium. The frontal fragment of *C. Nathani* is less concave in the orbital region, is much narrower and less thick, whilst the sculpturing is very distinct; the frontal has a far greater share in the orbital borders, the inner contours of which are more circular.

As there is no special enlargement of the third mandibular tooth, *Pallimnarchus pollens* cannot be placed in the genus *Diplocynodon* as defined by Pomel and re-stated by Lydekker.⁸

In 1889 Boulenger⁹ pointed out the difficulty of making subgeneric divisions of living species of *Crocodylus*, and when fossil specimens are considered the problem is still more complex. Mook, as the result of his special studies, says: "This genus, which is variable in form at the present time, and appears to have been in the past, is evidently near the central line from which most of the existing Crocodylians have sprung." *Pallimnarchus pollens* is doubtfully distinct from *Crocodylus* in the broad sense. It differs from several species with which it has been compared in a complex of characters rather than in one outstanding feature. The evidence of the dermal armour, as outlined by De Vis, has also to be considered. For the present it seems best to retain the generic name, tentatively given by De Vis, for this Queensland fossil, although it is undoubtedly allied somewhat closely to some of the broader-snouted species of crocodile. It is unfortunate that no significant remains of the occipital and parietal segments are as yet available.

³ Owen, Mon. Fos. Rept. Crocodilia, 1850, Pl. VII.

⁴ Lydekker, Brit. Mus. Catal. Foss. Rept., 1, 1888, p. 45.

⁵ Falconer, Pal. Mem., 1, 1868, Pl. 28.

⁶ C. C. Mook, Bull. Amer. Mus. Nat. Hist., XLIV., 1921, Pl. IV.

⁷ Longman, Mem. Qld. Mus., VII, Pt. 1, 1924, p. 23, Pl. III.

⁸ Lydekker, Geol. Mag., dec. III., Vol. IV., 1887, p. 308.

⁹ Boulenger, Brit. Mus. Catal. Chel, etc., 1889, p. 277.

It has been pointed out that the presence of a premaxillo-maxillary notch is not an invariable diagnostic character between the crocodiles and the alligators, and there is a slight concavity in this region in *Jacare sclerops*, as figured by Mook, and in the fossil species, *Alligator lutescens*, described by Roverto from the Argentine.¹⁰ But the very prominent notches in the Lansdowne fossil form one of the distinctive features separating *Pallimnarchus pollens* from the caimanoid group, with which De Vis was inclined to associate it. He also overlooked the fact that the "Alligatoridæ" is represented in China. Although recognised as a distinct family by Huxley, Zittel, and others, most modern writers have included alligators and caimans within the Crocodilidæ.

In his study of Central American Crocodiles, K. P. Schmidt¹¹ says: "The existence of broad-snouted crocodiles, for the most part small species, in Central America and Cuba, India (*C. palustris*), and Central Africa (especially *Osteoblepharon osborni*), strongly suggests a case of the radiating dispersal from a northern center in accordance with Matthew's general theory of dispersal."

This view seems to fit the facts of the case, and the crocodiles thus form another link in the evidence connoting a northern origin for our Reptilia, as noted by the writer in a previous paper.¹²

Total Length.—It has been found in an average specimen of the present-day *Crocodilus porosus* that an inch of mandibular tooth-space roughly corresponds to a foot of body-length. Taking this ratio as an approximate guide, the Lansdowne crocodile would have been about 14 ft. in length. Obviously this ratio does not apply to the slender-snouted Crocodilians.

Other Fragments.—A much-abraded vertebra of the usual procelian type from the dorsal series and a few shattered mandibular and other fragments were also received with the cranium, but these are too incomplete to yield useful evidence.

Among the remains of scutes, no one of which is complete, is a specimen with the bevelled anterior edge of the type noted by De Vis.

Fragments of a mandible, separate teeth, and scutes from the Warburton River, South Australia, were placed on record by the late R. Etheridge, junr., and these were identified by De Vis as *Pallimnarchus pollens*.¹³

¹⁰ C. Roverto, Anal. Mus. Nac. Buenos Aires, XXII., 1912, p. 346.

¹¹ K. P. Schmidt, Field Mus. Nat. Hist., Zool. Ser., XII., 1924, p. 84.

¹² Longman, Mem. Qld. Mus., VIII., Pt. 1., 1924, p. 10.

¹³ R. Etheridge, Ann. Rep. Govt. Geol. South Aus., 1894, p. 20.



Fig. 1.—*Pallimnarchus pollens*. Palatal view of Lansdowne cranium.

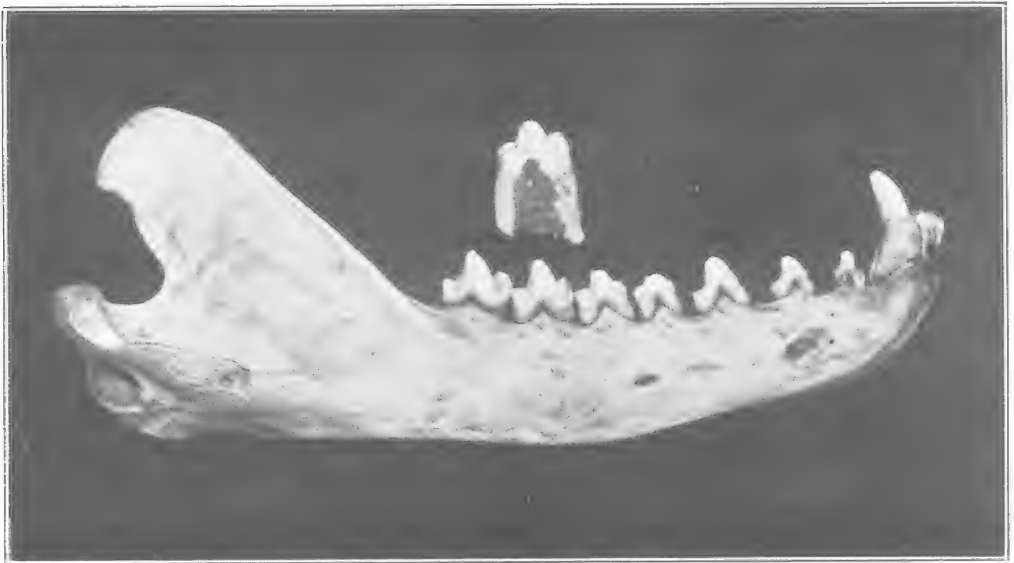


Fig. 2.—Tooth of *Thylacinus* from Marmor, photographed above corresponding tooth in jaw of *Thylacinus cynocephalus*.



FOSSIL MARSUPIALS FROM MARMOR.

BY HEBER A. LONGMAN (Director).

(Plate XXVI, Figure 2.)

IN a former issue of this publication¹ I placed on record a number of fossil marsupial specimens from the extensive deposits of cave-earth exposed at the limestone quarry at Marmor, North Coast Line, Queensland, which had been forwarded through the kindly interest of the local manager, Mr. Samuel Evans. The list included *Diprotodon australis*, *Phascolumys* sp., *Macropus* sp., *Thylacoleo carnifex* and *Trichosurus* sp. Additional material has been received from time to time, and although the specimens are very fragmentary, mostly being bone breccia cemented in cave-earth, evidence is now available for other records.

Sarcophilus laniarius Owen (*F.* 1693).—This large Polyprotodont is represented by a portion of a left maxilla with the last premolar and two anterior true molars, with other isolated molar fragments and a canine. The maxilla is still partly embedded in matrix. This was exhibited at the October meeting of the Royal Society of Queensland,² and it is of interest to recall that a still smaller fragment (*F.* 1373), consisting of part of a mandible with a single molar, from the Mount Etna Fertiliser Company deposits, near Rockhampton, was placed on record by the writer in 1921.³ This material from Marmor and Mount Etna represents a species closely allied to, if not identical with, *Sarcophilus laniarius* from the Darling Downs, but although more complete specimens may afford data for a distinctive name, it would be unsatisfactory to give one at present.

Thylacinus spelæus Owen.—An incomplete conical crown, received from Mr. Evans with the *Sarcophilus* specimens, could not be placed except with the premolars of the extinct Queensland representative of the marsupial wolf, but this dental fragment seemed a somewhat inadequate basis for a record. However, in March last a complete, isolated molar tooth was received, and this proved to be the third true molar from the right hand side of the mandible. This tooth (*F.* 1737) is illustrated on Plate XXVI., Figure 2, and in order to show its large size in comparison with its present-day Tasmanian representative it is placed immediately above the corresponding tooth in *Thylacinus cynocephalus*. The tooth is slightly incomplete on its anterior face,

¹ Longman, Mem. Qld. Mus., VIII., Pt. 1, 1924, p. 21.

² Abs. Proc. Roy. Soc. Qld., XXXVI., p. XVII.

³ Abs. Proc. Roy. Soc. Qld., XXXIII., p. XIV.

but its maximum antero-posterior length, above the alveolar portion, is 17 mm. The maximum breadth is 8.5 mm. In these marsupial carnivores there is considerable variation in the dentition of the sexes, and it is thus probable that the Marmor tooth comes within the range of male specimens of Owen's species. In describing *Thylacinus rostralis* from the Darling Downs,⁴ De Vis emphasized the relatively longer muzzle, as shown by the greater antero-posterior extent of the dental arcade anterior to the true molars.

Phascogale flavipes Waterhouse.—A fragment (*F.* 1738) of the left ramus of a mandible, containing the last three molars and the alveoli of the first and of a premolar, agrees most nearly with the northern sub-species of this "pouched mouse," described by Oldfield Thomas as *Phascogale flavipes adusta*.⁵

Petrogale cf. *inornata* Gould.—This is based on a specimen with four true molars in position in a fragment of the left ramus of a mandible (*F.* 1739). The maximum length of the molar series is 24 mm. The ridges of the last tooth show but slight signs of wear, but the mandible is rather more robust than that in present-day rock wallabies as represented in our collection. There is considerable variation in this region, however, and this character, in the degree presented, is not of specific value.

Acknowledgments.—It is my pleasant duty to thank Mr. A. A. Boyd, manager of the Mount Morgan Gold Mining Coy., and especially the local manager at the Marmor Quarry, Mr. Samuel Evans, for reserving and presenting this interesting material.

⁴ De Vis, Proc. Linn. Soc. N.S.W., VIII. (2), 1893, p. 444.

⁵ O. Thomas, Ann. Mag. Nat. Hist. (9), XI., 1923, p. 175.

OPHIDIAN VERTEBRÆ FROM CAVE DEPOSITS AT MARMOR QUARRY.

By HEBER A. LONGMAN, DIRECTOR.

IN October, 1924, in company with Mr. Samuel Evans, manager, and Mr. W. Goulding, engineer, I had an opportunity of examining several pockets of cave earth at the Marmor Quarry, N.C. Line, Queensland. Owing to extensive excavations, this cave earth is now exposed, although at a depth of about 60 feet from the original surface of the limestone hill.

Whilst working through one of these pockets four proœlian vertebræ with hemispheroid cups and balls of the ophidian type were unearthed. Three of these were from the pre-anal series, and one, as shown by the paired articular facets for the hypapophyses, is from the caudal series. Judging from the slight development of the hypapophyses, no one of the three pre-anals is from the anterior region of the body. Unfortunately these specimens are all imperfect, but the contours are sufficiently preserved to demonstrate their close affinity with *Python variegatus*, the common carpet snake of to-day.

In the largest specimen the maximum diameter at extremities of the anterior zygapophyses is 14 mm. The maximum height is 10 mm., but the neural spine is very incomplete. The diameter of the cup is 4.5 mm. The zygapophyseal facets are strongly developed as in the Pythons, and do not terminate in supplementary lateral processes. The zygosphenes are relatively stout. Two vascular foramina are present in the recesses of the zygantrum. The contours of the centra and of the zygapophyses are closely comparable with those of a carpet snake about 6 feet in length. The articular diapophyses are convex oval surfaces extending from the ventral border of the cup to the lower border of the anterior zygapophyses. *Reg. No. F. 1733.*

Thanks to the researches of Owen, E. D. Cope, de Rochebrune, O. C. Marsh, R. Lydekker, and other writers there is considerable literature on the status of ophidian remains, and it is evident that well-preserved vertebræ may show diagnostic characters. Vertebræ of Pythons have been recorded from the Pleistocene cave-deposits of India, whilst species of *Palæopython* (included in Owen's *Paleryx* by Lydekker) have been described from Tertiary deposits in France and England. Cope and Marsh have described Boidæ from America. Lydekker has recorded¹ six vertebræ from the Wellington Caves of New South Wales, which were compared with *Nardoa* and *Liasis*, but not generically determined. The presence of a prominent hæmal carina on these is a distinctive feature compared with the Marmor specimens.

¹ Lydekker, Cat. Fos. Rept. Amph., B.M., Part 1, 1888, p. 256.

The discovery of remains of *Thylacoleo*, *Thylacinus*, and *Sarcophilus* in the same deposits at Marmor is an interesting point.

In order to institute comparisons with the five main groups of ophidians found in Australia to-day (eliminating the Typhlopidae for obvious reasons), the characters of available vertebræ were studied. As this proved to be of some interest, the results are set out in the following table:—

Python.—Neural spines hatchet-shaped, produced posteriorly.

Anterior zygapophyses with no lateral processes beyond the flat articular surfaces.

Hypapophyses only prominent in anterior region, the great majority of the pre-anal series being reduced to rounded carinæ, the anterior portion of which is formed by the ventral edge of the cup rim.

Dendrophis.—Neural spines rectangular laminæ, being slightly emarginated.

Anterior zygapophyses produced beyond and slightly below the articulating surfaces as pointed lateral processes.

Hypapophyses prominent in anterior region, but they are less developed towards the mid-dorsal region where they appear only as rounded carinæ.

Boiga (Dipsadomorphus).—Neural spines rectangular, being very slightly emarginated.

Anterior zygapophyses produced beyond and slightly below the articulating surface as short, pointed lateral processes.

Hypapophyses prominent in anterior vertebræ but only present as rounded carinæ on main portion of pre-anal series.

Demansia and *Pseudechis*.—Neural spines emarginated anteriorly and posteriorly at centre of laminæ, the upper edges projecting.

Anterior zygapophyses produced beyond and slightly below the articulating surfaces as marked, pointed lateral processes.

Hypapophyses prominent as oblique processes throughout the body length; not reduced to rounded carinæ.

Distira.—Neural spines hatchet-shaped, upper edge produced posteriorly owing to emargination of laminæ.

Anterior zygapophyses produced beyond and slightly below the articulating surfaces as marked, pointed lateral processes.

Hypapophyses prominent as oblique processes on the anterior part of the body, less developed in the mid-dorsal region, and towards the anal region they subside into well-defined carinæ.

In the mid-dorsal vertebræ of the relatively large *Typhlops ligatus*, examined, the neural spines and hypapophyses are undeveloped. The pre-zygapophyses are accompanied by tubular lateral processes (diapophyses), which are readily detached from the ribs.

THE LIFE HISTORY OF *OLIARUS FELIS* KIRK (HOMOPTERA).

BY HENRY HACKER, F.E.S.

(Plates XXVII-XXVIII.)

As this is the first complete life-history record in the genus *Oliarus*, full details are given of the conditions under which the insects were found. It is probable that an examination of similar situations in other countries will disclose subterranean habits among many other species of these cosmopolitan insects.

The capture of one or two examples at my home first drew attention to them. Subsequently others were taken by "sweeping" in the garden, where they appeared to be limited to the lower end. This part consists of a black, sticky, alluvial soil, while just beyond is a fringe of mangrove trees and the banks of a tidal creek. The only vegetation on this low-lying strip is the salt-water couch grass, *Sporobolus virginicus* var. *minor* Bail., which forms a dense mat over the area, owing to its being fenced off from stock.

At the roots of this grass, *Oliarus felis* Kirk. were found in numbers. Blocks of soil were cut out, and were readily broken apart where cracks occurred, displaying a white fibrous substance on both faces. In these cracks, early in April, were various-sized nymphs, and adults of both sexes. The white material consists of the filamentous tufts which are rubbed off the terminal abdominal extremity of the nymphs while moving about in the crevices. The attachment of these white tufts is extremely weak; they may be seen becoming detached when colonies are exposed, and the nymphs are pushing among the rootlets, trying to find fresh hiding places. The nymphs are very sensitive to light, and when exposed their chief object is to find some small hole or rootlet into which they may push their heads. After attaining this object they will remain quiet although the rest of their bodies are exposed to strong light.

Besides their delicate sensitiveness to light, the disparity between the thousands of these insects inhabiting each acre of grass roots, and the comparatively small number seen above ground or obtained in the sweep net, indicates that they are truly subterranean in their habits.

During the spring tides the place is saturated with brackish water, and for short periods is actually submerged for an hour or two daily. Several adults were seen climbing up the grass stems to avoid the water. No nymphs appeared, although they were numerous at the time. After the water receded some were dug up and were found to be apparently dry. No doubt the waxy secretion which covers their bodies renders them waterproof.

Another examination of the couch grass was made at the end of April, and many clusters of eggs were present in the crevices, each covered with its small white wad; a few females were seen at this time, but no males. On 12th May about one hundred young nymphs were seen while breaking

up two small blocks of turf, but only one egg-mass. Examination at different periods showed that, in November and April, adults of both sexes were plentiful; while at other times only nymphs were present.

Eggs.—Length .56 mm.; breadth .025 mm. Oval, subtranslucent, white. Microscopically the shell is quite smooth, and without any visible microphyle. They are not attached, but are loosely placed in clusters of forty to sixty in small cavities among the grass roots, under a circular wad-like mass of white filamentous material.

Nymphs.—Last instar, length 5.5 mm.; breadth 2.5 mm. The anal tuft when present adds another 3 or 4 mm. to the length; anterior and posterior extremities rounded, sides somewhat parallel; head small, pale brown, smooth in the middle, with two rows of sensory pits on each side; eyes moderately prominent; pronotum pale brown, anterior angles rounded and thickly studded with sensory pits; there is a longitudinal median white stripe running the length of the thorax and continuing in a fine line to the apex of abdomen; the pale-brown wing-pads each carry a short curved row of sensory pits; abdomen white, with a broad transverse pale-brown band on each segment; two sensory pits on the first, four on the second, and a transverse row on the third and fourth dorsal segments; ventral surface white. The young nymphs are entirely white.

Adults.—Female, length 4 mm., tegmen 5 mm. Vertex about as broad as long, a little broader at the base: lateral margins fork nearer the apex than the middle, forming a transverse convex carina; a short central carina at base of vertex which does not reach the transverse one; pronotum short dorsally, widening laterally, hind margin angularly emarginate; abdomen flattened; pygofer broader than long, the anal segment small, not so long as pygofer, about as long as broad, the styles small, not so long as pygofer; central portion of pygofer thickly studded with minute peg-like processes.

Paler than the male; clypeus, vertex, and sides of prothorax brownish black, keels and carinae ochraceous; mesothorax dark brown, keels and a stripe on each side ferruginous; abdominal segments dark brown, apical borders and sides of each segment ochraceous; pygofer pale; tegmina hyaline, piliferous, veins yellowish, hairs and cross-veins brown. In fresh specimens the whole body is dusted with a pruinose material, making it appear greyish.

Male, length 3.5 mm., tegmen 4 mm. Tegmina, basal two-thirds hyaline, apical third fuscous. The perianthrium is produced into a flat process; three curved spines arise from near base of penis, which is membranous. Differs from the female in the smaller size, darker markings, and the dusky apical third of tegmina. Mr. F. Muir, who kindly identified this species, states that the type material consists of three males.

EXPLANATION OF PLATES.

Plate XXVII, Fig. 1.—Sod broken along a crack, exposing four nymphs. $\times 5$.

Plate XXVII, Fig. 2.—Sod broken along a crack, exposing three nymphs and an adult.

Plate XXVIII, Fig. 3.—Egg-patch with covering removed exposing the eggs. $\times 10\frac{1}{2}$.

Plate XXVIII, Fig. 4.—Male genitalia, lateral view. $\times 54$.

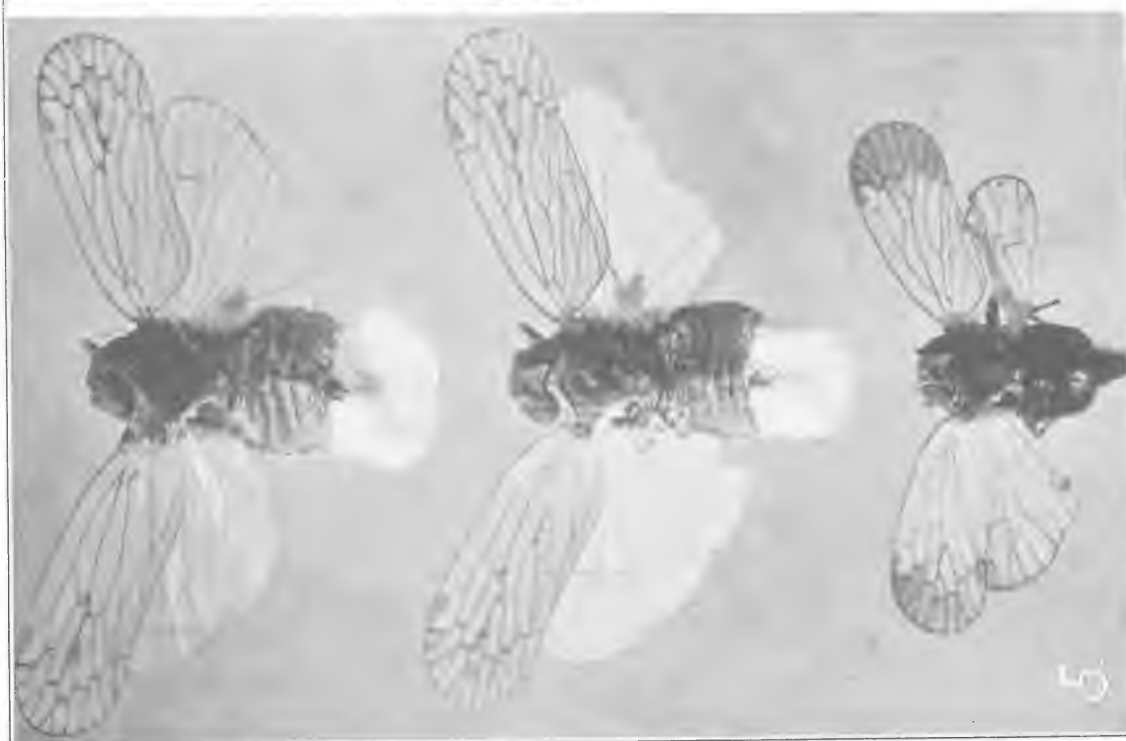
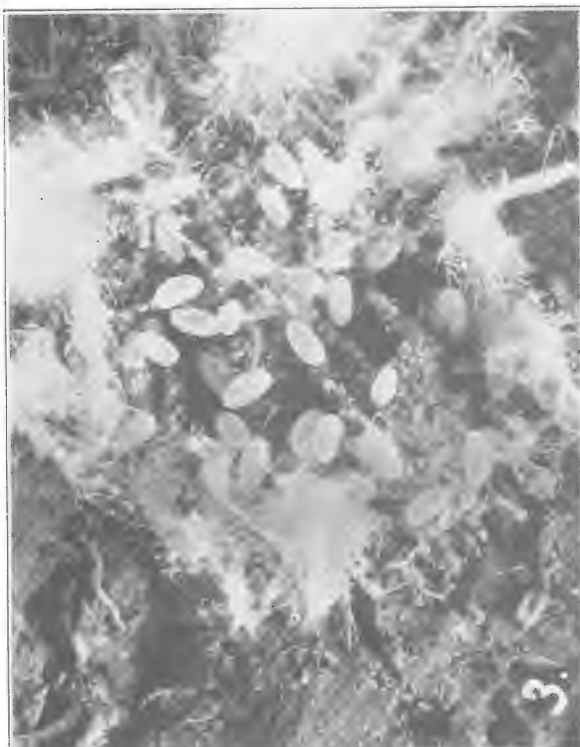
Plate XXVIII, Fig. 5.—Adults, two females, and one male. $\times 8$.



Life History of *Oliarus felis* Kirkaldy.

Photos., H. Hacker.





Life History of *Oliarus felis* Kirkaldy.

Photos., H. Haecker.



THE PRESENT DISTRIBUTION AND PAST HISTORY OF OUR AUSTRALIAN BUTTERFLIES.

By A. JEFFERIS TURNER, M.D., F.E.S.

(Text-figures 1-5.)

AUSTRALIA is rich in Lepidoptera, and they are generally distributed all over the continent and its adjacent islands. No doubt the extent to which the various families and higher groups are developed differs much according to the locality. The Lepidoptera of the Northern Territory are very different from those of Tasmania, and those of South-West Australia from those of Eastern Queensland: but in no part is there any deficiency. Even in the usually arid interior Lepidoptera are abundant in good seasons. The number of species is there certainly considerably smaller than in the moister areas of the coastal regions and the mountains; but among them is a considerable proportion of peculiar species and even genera. We have indeed a lepidopterous fauna characteristic of arid regions throughout the continent. Furthermore, our Australian fauna has a high degree of peculiarity. Together with numerous groups which have an extensive or even a world-wide distribution, we have others which are either almost peculiar to Australia, or are much more extensively developed there than in other parts of the world. Among these, for example, are the ANTHELIDÆ, the CNETHOCAMPINÆ section of the NOTODONTIDÆ, the CENOCHROMIDÆ, the TINEODINIDÆ, the ECOPHORIDÆ, a section of the XYLORYCTIDÆ, and a section of the COSSIDÆ.

When we consider that section of the Lepidoptera known as the RHOPALOCERA or butterflies, we find a wholly different state of things. So far as numbers go, they are not ill represented. We have nearly 350 species representing nearly every group found in the Eastern Hemisphere; but the distribution of the great bulk of them is confined to a very narrow area. No butterflies are characteristic of the interior. To quote Waterhouse and Lyell's "Australian Butterflies":—"Not more than forty species have yet been recorded farther inland than the spurs of the main divide: we know of no Australian butterfly that has not been taken within a hundred miles of the coast." Butterflies are most abundant in species in the coastal region of Queensland and New South Wales, and the number of species diminishes as one proceeds southwards along this comparatively narrow coastal strip. From Victoria only some 86 species are recorded, from Tasmania 32, from South Australia probably 36, from South-West Australia 39. Nor is the Australian butterfly fauna of peculiar type; taken apart from our other Lepidoptera it can only be regarded as an unimportant division of the Indo-Malayan fauna. It may be stated broadly, that, with but few exceptions, our butterflies are descended from immigrants from the North across

the shallow sea of Torres Strait, probably not an impassable barrier even now, and replaced in Pleistocene times by continuous land. The great bulk of this immigration appears to have been comparatively recent, though some is of older date. Of the latter we may cite *Papilio macleaynus*, which alone of its genus has reached Tasmania. This species has only one close ally now living, *Papilio weiskei*, which is confined to the mountains of New Guinea above 5,000 ft. Another early immigrant, which



Text-figure 1.—Distribution of Genus *Euplaea*.

has also reached Tasmania, is the Lycænid *Pseudalmenus chlorinda*. The TRAPEZITINÆ subfamily of the HESPERIDÆ also probably arrived early, as it is largely developed in South-East Australia. Of the later arrivals many penetrate no further south than the Cairns district, others have reached Mackay or Yeppoon, and only a minority extend beyond the Manning River.

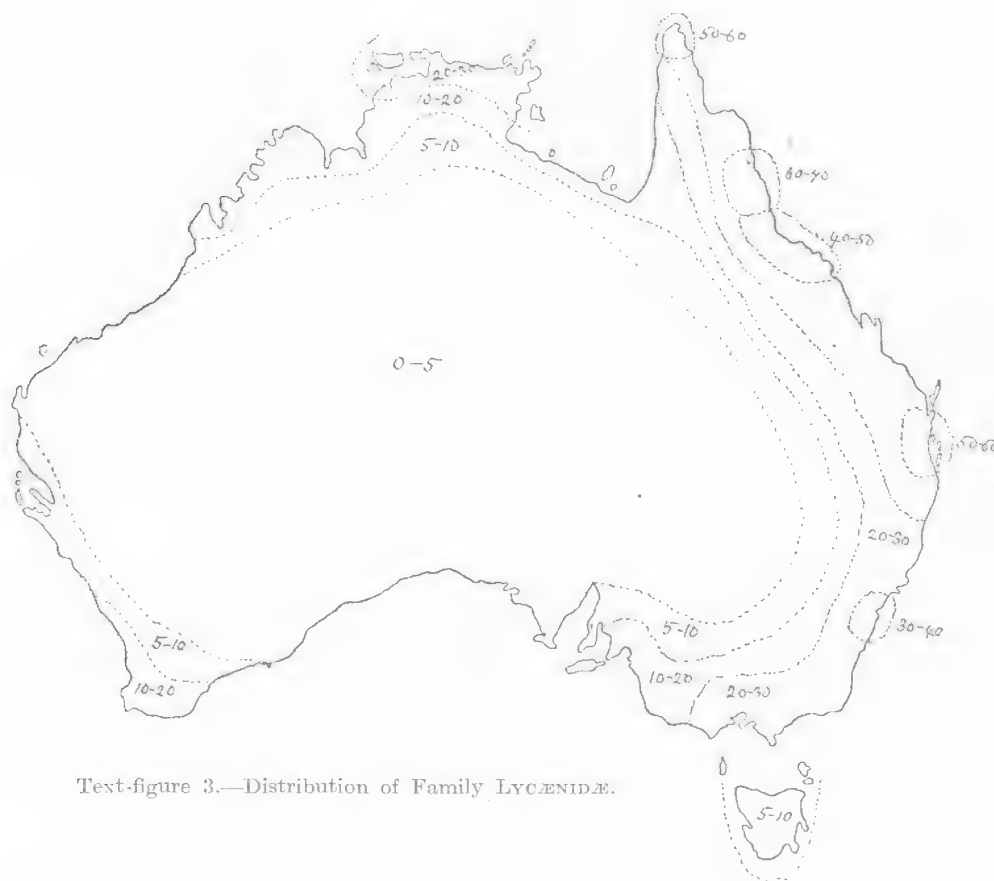
In order that the evidence for this conclusion may be appreciated we have selected certain groups for the construction of "Specific Contours" as suggested

by Tillyard (Proc. Linnean Soc. N.S.W., 1914, p. 21). In Text-figure 1 is shown the distribution of the genus *Euploea*, with the number of species in each area. It will be seen that the distribution is purely coastal, and the numbers decrease rapidly as one proceeds southwards. Eight species are known to occur at the apex of Cape York Peninsula, 5 in the Cairns district, 4 in the Townsville-Mackay district, 2 are found as far south as Brisbane, only one extends as far as Sydney. The genus



has also a western extension along the northern coast; 3 species reach to Darwin and one to Wyndham. Text-figure 2 is devoted to the genus *Papilio*. From Cape York to Cairns there are 13 species, thence to Mackay 12, to Yeppoon 9, to Brisbane 8, to Sydney 7, 4 are found in Victoria, and one in Tasmania. On the northern coast 3 species are found at Darwin, while one, *P. sthenelus*, is spread over a large extent of the interior from Wyndham to Adelaide. In the remainder of the continent the genus is unrepresented.

The LYCÆNIDÆ is the largest family of butterflies in Australia, comprising some 115 species. They are generally distributed all over the continent, but in very unequal numbers. Our records are not sufficiently complete as to the range of the various species to allow us to draw the specific contours in the same manner as those of the preceding two genera, but by grouping the species in tens in Text-figure 3 a very fair approximation can be secured. It will be observed that as a whole the results are closely comparable to those already obtained, in spite of the existence of



Text-figure 3.—Distribution of Family LYCÆNIDÆ.

many species of which the known range is limited to a small area. The species are by far more abundant on the east coast and diminish gradually from north to south. Apparent exceptions are the larger numbers recorded from the Sydney, Brisbane, and Cairns districts, facts which may be mainly attributed to these districts having received special attention from collectors. In the latter two districts it may also be partly due to their inclusion of high altitudes, allowing the occurrence of mountain species in addition to those found at lower levels.

We now come to a more difficult case, the *TRAPEZETINÆ* subfamily of the *HESPERIDÆ*. Their distribution is not known in sufficient detail to permit of more than a modification of our method of contours, in which the number of species found in certain areas only is shown. We observe in Text-figure 4 that the largest number of species are found in five areas, all near the coast on the east of the continent. They are Central Victoria (18), the Blue Mountains (22), Sydney district (16), Brisbane district (19), Cairns district (21). So far as the map goes we observe that the group



Text-figure 4. —Distribution of Subfamily *TRAPEZETINÆ*.

is an eastern one in Australia, but tolerably equably divided between north and south, and from this no definite conclusion can be drawn as to its place of origin. We may say, however, that it is known to occur in the islands to the north of Australia, that a large proportion of the species are confined to mountain areas, and that in our opinion the mountains of Papua will probably, when sufficiently explored, indicate that it has been indigenous there, and probably also in the Eastern Australian cordillera, since a very remote period.

We do not propose to extend this analysis to every group of the RHOPALOCERA. For the most part the results would be very similar to those given in our first three Text-figures. We shall, however, now consider certain exceptions. There is some evidence that half-a-dozen butterflies have reached Northern Australia, not by the Torres Strait route, but from Timor (Waterhouse and Lyell). As might be expected these are all strong-flying species. This route of immigration appears to have been of very subordinate importance. On the eastern coast from Sydney northwards to Cape York and thence westward to Darwin occurs the peculiar Papilionid, found also in New Guinea, *Eurycyus cressida*. This is a very isolated form, having its nearest allies far distant in the Holarctic and Neotropical regions, and is an instance of what we may term Palæogenic distribution, which results from the surviving remnants of an ancient and once widely distributed group.

Of the 39 species found in South-West Australia 22 are identical with species found in the East of Australia, and their occurrence may be simply explained. They are species which range freely over the interior during favourable seasons, and for them the desert is no constant barrier. Sixteen differ from eastern species, many of them very slightly, so that they may be regarded merely as geographical races or subspecies. Some of them must undoubtedly be regarded as good species, but all belong to genera more largely developed in the east. These sixteen species and subspecies we regard as immigrants from the east during Pleistocene times, when Australia as a whole enjoyed an abundant rainfall, and an identical marsupial fauna, including many extinct forms, some of them of giant size, ranged from east to west. By progressive desiccation these West Australian butterflies have been isolated from their kindred, and have undergone subspecific or specific modification. There remains one West Australian butterfly, *Exometæca mysteris* Meyr., which belongs to the HESPERINÆ subfamily of the HESPERIDÆ or skipper butterflies. In Australia we have eight species of this subfamily referred to five genera. *Exometæca*, which contains only the one species, is its only representative in West Australia. The HESPERINÆ are of world-wide distribution, and an ancient group. West Australia was formerly a sub-continental island, which in late Cretaceous or early Tertiary times became united with the eastern portion of the continent by the elevation of Central Australia above the sea-level. Before this junction West Australia possessed a large and peculiarly Australian flora. We may be certain that it also possessed a peculiar lepidopterous fauna, and it is not unlikely that among these were representatives of the HESPERINÆ. If there were any West Australian butterflies in those old times, *Exometæca* may be their only surviving representative. The evidence is not sufficient for certainty, but it is a tempting hypothesis.

A more important exception to the general rule of the distribution of our Australian butterflies is presented by a small number of genera, containing in all 21 species, which may be called the *Heteronympha-Xenica* group. Their headquarters are in South-East Australia and Tasmania, and they are essentially a temperate group, diminishing rapidly in numbers toward the north, in which direction they are attached mostly to the mountains, and not reaching the tropics. This is plainly shown in Text-figure 5, which is constructed on a similar plan to Text-figure 4. Ten

species are known in Tasmania, 11 in Central Victoria, 10 in the Australian Alps and Blue Mountains, 7 in the Sydney district, 9 in New England. Only 2 species reach beyond the Macpherson Range and penetrate only a short distance into Southern Coastal Queensland. To the westward 4 species are found in South Australia and 3 in South-West Australia. It is possible that the *Heteronympha-Xenica* group may, like some other groups of our plants and insects, have an Antarctic origin. We know that a comparatively warm climate and tree-forests were present in Antarctica during the Tertiary period, and it is not unlikely that then Tasmania extended further south,



Text-figure 5.—Distribution of *Heteronympha-Xenica* Group.

and Antarctica further north. An actual land connection would not be necessary, as insects may under favourable conditions, such as strong winds and storms, be conveyed overseas for long distances. The only other possibility is that these temperate-loving butterflies crossed from north to south along our eastern cordillera during a glacial epoch. If their nearest relatives are found in the Papuan mountains, this latter hypothesis will be strengthened; if however they are found in Chile, the Antarctic theory will receive confirmation.

An interesting special case arises among these SATYRINÆ. The very common eastern species *Xenica klugi* is found also in South-West Australia, and with it a closely allied species, *X. minyas*, which is peculiar to that area. Now *minyas* and *klugi* must have had a common origin, and it seems difficult to explain why *klugi*, so constant in all the rest of its wide range, should in this area have branched into two species. Light is thrown on this problem by the third West Australian species *Heteronympha duboulayi*, which is extremely close to the eastern *H. merope*. Here the explanation is easy. *H. merope* crossed the continent to the west probably during moist Pleistocene times. Isolated by subsequent desiccation, it diverged slightly from the parent form, so slightly that by some it is regarded as only a subspecies. *X. minyas* arose, I believe, in the same way from *X. klugi*, and would certainly have been regarded as a subspecies if *klugi* were not found in the same area. *Klugi*, I consider, managed after a long interval to cross the desert a second time. This may have occurred during an exceptionally wet season, or series of wet seasons, unless we suppose, which is conceivable, that it was accidentally conveyed in fodder since the settlement of Australia. However that may be, its descendant *minyas* had by that time become sufficiently modified to prevent its interbreeding with the parent species.

NEW FISH RECORDS FOR QUEENSLAND.

BY T. C. MARSHALL.

THE following new fishes for Queensland are noted in order that the references may be included in the "Catalogue of the Fishes recorded from Queensland," by A. R. McCulloch and G. P. Whitley, which appears in this publication.

FAMILY TRACHYPTERIDÆ.

TRACHYPTERUS JACKSONIENSIS (Ramsay). ✓

On the 5th November, 1921, a fine specimen of this Ribbon-fish was washed ashore on the main beach at Southport, Southern Queensland, and, thanks to the kindly interest of Mr. Jack O'May, was forwarded the same day to the Queensland Museum. The specimen, which was received in very fair condition, is six feet six inches in length (snout protracted).

Ramsay first described this species as a *Regalecus*, and in 1897 J. D. Ogilby dealt with its affinities when describing a sub-species, *Trachypterus jacksoniensis polystictus*, from Newcastle, New South Wales.¹

In the Southport specimen the dorsal portion of the caudal fin ends distinctly in front of the termination of the body. It consists of six short almost adpressed rays, no one of which is as long as the shortest ray in the lengthy dorsal series. This caudal fin is obliquely directed backward at an angle of 120° to the dorsal line. The ventral portion is modified into three short, naked, divergent spines.

The specimen figured by McCoy as *Trachypterus tænia*² (Bloch) and included by Ogilby in the synonymy of *T. jacksoniensis*, has four dark large spots on the body and a prominent ventral fin. In the Southport specimen the ventral fin is either entirely absent or so rudimentary as to be inconsequential, and the dark spots are lacking.

A few other features of special interest are noted. Behind the large eye (diameter 76 mm.) the head region is somewhat damaged. The dorsal and abdominal profiles are almost parallel in the anterior half of the body, the depth being approximately 225 mm. The dorsal fin, which appears to have been continuous, contains 176 rays. These are longest in the mid-dorsal region, where they attain a length of 92 mm. There are 14 rays in the pectoral fin, the maximum length being 89 mm.

¹ Ogilby, Proc. Linn. Soc. N.S.W., 1897, Vol. 22, p. 646-659.

² McCoy, Nat. Hist. Vic., Vol. II., pp. 83-85, Plate 122.

Owing to the absence of literature, I have been unable to compare our specimen with *Trachypterus semiophorus* of Bleeker, described from Amboine in 1868.³

When this Ribbon-fish was received at night by the Director (Mr. Heber Longman), its silvery surface was glowing with phosphorescence and it formed a remarkable object. In order to preserve it satisfactorily it was cut into two portions. Subsequently these were united and the specimen was placed on exhibition in formalin solution in a neatly-made cement tank with the exterior blackened and the interior enamelled white. As it was found impracticable to place a glass cover on this cement tank, the whole was enclosed in a large case with other specimens and casts. Except for the occasional need to replenish the formalin lost through evaporation, the specimen requires little attention and forms a popular exhibit.

FAMILY CEPOLIDÆ.

CEPOLA AUSTRALIS Ogilby.⁴

A fine example of this rare species was caught off Moreton Island, in July 1923, by Mr. E. Sanders, who kindly forwarded it to the Queensland Museum. It measures $15\frac{1}{2}$ inches in total length.

³ Bleeker, Arch. Néerl. Sc. Nat., III., 1868, pp. 279-280.

⁴ Ogilby, Proc. Linn. Soc. N.S.W., XXIV., 1899, p. 185 ; McCulloch, Biol. Res. Endeavour, II., 3, 1914, p. 109, Pl. 34, 1.

A LIST OF THE FISHES RECORDED FROM QUEENSLAND WATERS.

BY ALLAN R. McCULLOCH, ICHTHYOLOGIST, AND GILBERT P. WHITLEY, ASSISTANT,
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RESTRICTED to the use of such terms as can be printed with propriety, we can only write that the record of Queensland ichthyological work is unfortunate. The identifications of many of the fishes are far from satisfactory, and a considerable number of species, particularly those recorded by several writers in Australian publications, have been undoubtedly determined incorrectly.

Collections from Cape York, Bowen, Cardwell, and other scattered localities, received at the British Museum, enabled Dr. Günther to record a considerable number of species in his eight-volume Catalogue of Fishes, published in 1859-1870. Still others were added to the list by Drs. Steindachner and Klunzinger who wrote in the publications of the Vienna Academy. These accomplished German and Austrian scientists, with that trait for systematic work which was almost a national virtue, laid a sound foundation for the work of later writers. Unfortunately, they were followed by several less proficient ichthyologists, the elucidation and correction of whose errors have demanded both much patience and time of still later investigators.

Count François L. de Castelnau wrote upon small collections of fishes from various parts of Queensland in the Proceedings of the Zoological and Acclimatisation Society of Victoria, and in the Victorian Official Record of the Philadelphia Exhibition, though why this latter should have been selected for the purpose is not explained. Few, if any, of his Queensland types are preserved, but it seems that his hopelessly inaccurate and brief descriptions were based upon specimens of common tropical fishes which already had been described as new species more than once by his predecessors.

The late Sir William Macleay sailed along the Queensland coast in his own ship, the "Chevert," in the year 1875, and collected a large number of fishes by means of lines and nets, and among corals, etc., on the reefs. He described a considerable number of these as new species in a paper with Dr. H. G. Alleyne, which was published in the first volume of the Proceedings of the Linnean Society of New South Wales. They were recorded again in the better known Catalogue of Australian Fishes, compiled by Macleay in the fifth, sixth, and ninth volumes of the same publication. An examination of his collections, now preserved in the Macleay Museum at the University of Sydney, proves most of these new species to be referable to older known fishes which are widely distributed throughout the Indian and Pacific Oceans, wherever there are coral reefs to afford that particular environment which is apparently their principal need.

* By permission of the Trustees of the Australian Museum.

The appearance of Macleay's Catalogue of Australian Fishes, in 1881, provided the late Mr. C. W. De Vis, the then Director of the Queensland Museum, with a means of adding many more supposed new species in several papers in the Proceedings of the Royal Society of Queensland and of the Linnean Society of New South Wales. Unfortunately, it must be recorded that nearly all of his types, so far examined, have proved to be synonyms of still other, or even the same well-known species as had been dealt with previously by either his predecessors or his fellow workers.

The late Mr. W. Saville-Kent, as Commissioner of Fisheries for Queensland in the years 1889-90, recorded but little to advance our systematic knowledge of the fishes of that State. In two publications, "The Great Barrier Reef" and "A Naturalist in Australia," which are notable for their splendid photographic reproductions rather than accuracy of the statements in the text, he added still further nominal species to the Queensland list. With the assistance of Mr. De Vis, Kent compiled a list of what he considered to be the edible fishes known from the State, but this included many of doubtful identity and others which collectively form a formidable list of *nomina nuda*. The list appeared first in 1889 in a Parliamentary Report upon the food-fishes of Queensland, and later, at the end of the volume, dealing with the Barrier Reef. Some crude colour-sketches of fishes made in the field were reproduced in the latter, and being accompanied by scientific names, were accepted as established species by the compiler of the ichthyological portion of the Zoological Record of the day. But few of these have been again recognised, and it is probable that others are unrecognisable.

The study of Queensland Fishes was elevated to a much higher plane when Mr. J. Douglas Ogilby, at one time ichthyologist of the Australian Museum, established himself in Brisbane. Under the auspices of the Amateur Fishermen's Association of Queensland, he gathered together a fine collection of local fishes and wrote several important papers upon them. He was later appointed as zoologist to the Queensland Museum, to where the types of his many discoveries were transferred later. Though Ogilby added considerably to the already long list of synonyms in the Queensland list, he did more towards disentangling the errors of his predecessors than any other investigator. The senior author of the present contribution here gratefully records his indebtedness to Mr. Ogilby for unfailing assistance and lasting friendship, which began when the first-named was a lad of thirteen years and flourished through the succeeding years.

In the year 1910, the Federal investigation ship "Endeavour" trawled along the Queensland coast northward to Bowen, and a very large collection of fishes was made, which included many not previously known from the State. A few of these were described by Ogilby, and others have been dealt with by McCulloch in the scientific reports upon the "Endeavour" collections.

The following list is but the basis of a more complete work we had intended to prepare, but illness of the senior author demands that its compilation be postponed. The collection of the Australian Museum has been recently

greatly enriched by the efforts of Mr. E. H. Rainford of Bowen, and Surgeon-Lieutenant W. E. J. Paradise of H.M.A.S. "Geranium." Further, one of us (McCulloch) has collected extensively along the Great Barrier Reef and the coast of Northern Queensland. With such abundant material before us, we had hoped to present a catalogue of Queensland fishes, which would be much more complete than the mere list we now offer. But, pressed by circumstances, we submit this basic list, which is merely a copy of the information afforded by a card-index of papers dealing with Queensland ichthyology.

Class LEPTOCARDII.

Order AMPHIOXI.

Family EPIGONICHTHYIDÆ.

Epigonichthys hedleyi Haswell. Murray Island—Haswell 39.

Epigonichthys cultellus Peters. Peel Island, Moreton Bay—Peters 132. Thursday Island—Gunther 37.

Asymmetron caudatum Willey. Murray Island—Haswell 39, as *Heteropleuron lucayanum* Andrews.

Family BRANCHIOSTOMIDÆ.

Branchiostoma belcheri Gray. Prince of Wales Island—Gunther 37.

Class ELASMOBRANCHII.

Subclass SELACHII.

Order CESTRACIONTES.

Family HETERODONTIDÆ.

Heterodontus philippi Bloch & Schneider. Moreton Bay—Kent 45, 48.

Gyropleurodus galeatus Gunther. Coast of South Queensland—Ogilby 123.

Order EUSELACHII.

Family ORECTOLOBIDÆ.

Orectolobus maculatus Bonnaterre. Moreton Bay—Ogilby & McCulloch 128.

Orectolobus devisi Ogilby. Moreton Bay—De Vis 155, as *Crossorhinus ornatus*. Queensland Coast—Ogilby 123.

Orectolobus ogilbyi Regan. Thursday Island—Kent 47. Torres Strait—Ogilby & McCulloch 128. Dunk Island—Ogilby 111.

Orectolobus tentaculatus Peters. Cape York—Gunther 29.

Brachælorus modestus Gunther. Queensland—Gunther 33. Woody Point, Moreton Bay—Ogilby & McCulloch 128.

Heteroscyllium colcloughi Ogilby. Mud Island, Moreton Bay—Ogilby 112.

Stegostoma tygrinum Bonnaterre. Cape York—Ogilby 98. Normanton—Ogilby 111. Little Mulgrave River; Dunk Island—Ogilby & McCulloch 128. Southport—Ogilby 125. Cape Bowling Green (egg-case)—Ogilby 122.

Family HEMISCYLLIIDÆ.

Chiloseyllium ocellatum Bonnaterre. Cape York—Gunther 32. Torres Strait—Macleay 56. Murray Island; Hope Island; Masthead Island—Ogilby & McCulloch 128.

Chiloseyllium trispeculare Richardson. Cape York—Gunther 29.

Chiloseyllium punctatum Muller & Henle. Thursday Island—Regan 138. Dunk Island; Moreton Bay—Ogilby & McCulloch 128.

Family GINGLYMOSTOMIDÆ.

Nebrius concolor Rüppell. Darnley Island—Ogilby 120.

Family SCYLLIORHINIDÆ.

Halæurus labiosus Waite. Bramble Bay—Gunther 32, as *Scyllium maculatum*. This locality is evidently Bramble Cay, Torres Strait, *vide* Ogilby 98.

Family GALEIDÆ.

Mustelus antarcticus Gunther. South Queensland—Ogilby 123.

Galeorhinus australis Macleay. Moreton Bay—Ogilby 112, 123.

Galeocerdo arcticus Faber. Queensland coast—Ogilby 123.

Carcharhinus stevensi Ogilby. Bustard Bay; Nor-west Islet—Ogilby 117.

Carcharhinus amblyrhynchos Bleeker. Cape Bowling Green—Ogilby 123.

Carcharhinus melanopterus Quoy & Gaimard. Torres Strait—Macleay 56. Murray Island—McCulloch 66. Off Moreton Bay; Nor-west Islet; Darnley Island—Ogilby 123.

Carcharhinus spenceri Ogilby. Brisbane River—Ogilby 116. Moreton Bay; Great Sandy Strait; Old Woman Island; Hervey Bay; Rocky Island Reef—Ogilby 123.

Rhizoprion crenidens Klunzinger. Queensland—Klunzinger 49. Burnett River Heads—Ogilby 95. Moreton Bay; Cape Moreton; Double Island Point; Rocky Island Reef—Ogilby 123.

Aprionodon acutidens Rüppell. Torres Strait—Macleay 56.

Scoliodon jordani Ogilby. Outer Caloundra Bank—Ogilby 112.

Scoliodon affinis Ogilby. Noosa Head—Ogilby 118.

Scoliodon acutus Rüppell. Burnett River—Ogilby 97.

Scoliodon longmani Ogilby. Moreton Bay—Ogilby 118.

Physodon mulleri Muller & Henle. Cape York—Macleay 56.

Physodon taylori Ogilby. Townsville—Ogilby 122.

Family ALOPIIDÆ.

Alopias vulpinus Bonnaterre. Moreton Bay (Welsby & Appel)—Ogilby 123.

Family CARCHARIIDÆ.

Carcharias arenarius Ogilby. Moreton Bay—Ogilby 123.

Family LAMNIDÆ.

Isurus glaucus Muller & Henle. Bulwer, Moreton Bay—Ogilby 123.

Carcharodon carcharias Linnæus. Moreton Bay—Ogilby 123.

Family SPHYRNIDÆ.

Sphyrna, Eusphyrna, blochii Cuvier. Rockingham Bay—Ogilby 123.

Sphyrna, Sphyrna, lewini Lord. Queensland (Haswell)—Ramsay 134. Moreton Bay—Ogilby 123.

Sphyrna, Sphyrna, zygaena Linnæus. Moreton Bay—Peters 132.

Sphyrna, Platysqualus, tudes Cuvier. Moreton Bay—Ogilby 111. Cabbage-tree Creek; Brisbane River; South Hill; Double Island Point—Ogilby 123.

Order BATOIDEI.

Family PRISTIDÆ.

Pristis zysron Bleeker. Moreton Bay—Macleay 56. Queensland coast—Ogilby 123.

Pristis clavata Garman. Queensland coast—Ogilby 123.

Pristis microdon Latham. Moreton Bay—Ogilby 123.

Family RHINIDÆ.

Rhamphobatis ancylostoma Schneider. Queensland—Kent 47. Moreton Bay—Ogilby 111. Dunk Island—Ogilby 123.

Rhynchobatus djiddensis Forskal. Moreton Bay; Cartwright Point; Nor-west Islet—Ogilby 123.

Family RHINOBATIDÆ.

Rhinobatus banksii Muller & Henle. Cape York—Ogilby 95, as *R. bougainvillii*. South Hill; Moreton Bay; Cartwright Point; Low Bluff; Double Island Point; Hervey Bay; Platypus Bay; Bustard Bay; Hummocky Island—Ogilby 123.

Rhinobatus granulatus Cuvier. Cape York—Gunther 32. Torres Strait to Moreton Bay—Kent 47. Moreton Bay—Tosh 152.

Rhinobatus armatus Gray. Queensland coast—Ogilby 123. Moreton Bay—Ogilby 122.

Family RAJIDÆ.

Raja australis Macleay. Cape Moreton—Ogilby 123.

Raja polyommata Ogilby. Cape Moreton; North Reef—Ogilby 114.

Family TORPEDINIDÆ.

Hypnarce subnigra Dumeril. Off South Hill; Cape Moreton—Ogilby 125.

Family DASYATIDÆ.

- Urolophus testaceus** Muller & Henle. Cape Upstart—Gunther 32. Off Fraser Island—McCulloch 72. Jumping Pin, Moreton Bay—Tosh 152. Cape Moreton; South Hill; Low Bluff; Double Island Point—Ogilby 123.
- Dasyatis kuhlii** Muller & Henle. Moreton Bay—Tosh 152. Coolangatta; Currumbin; Nerang Creek; Moreton Bay; Brisbane River; Hervey Bay; Port Curtis; Nor-west Islet; Edgecombe Bay—Ogilby 123. Off Bustard Head—McCulloch 80.
- Dasyatis** sp. ? Queensland—Kent 47, as *Trygon pastinaca*.
- Dasyatis fluviorum** Ogilby. Brisbane River, above tides—Ogilby 112. Nerang Creek; Great Sandy Strait; Moreton Bay—Ogilby 123.
- Himantura uarnak** Forskal. Lower Burdekin River—Macleay 58. Queensland coast—Stead 145. Moreton Bay—Tosh 152. Moreton Bay; Platypus Bay; Pine Peak; Goode Island, Torres Strait—Ogilby 123.
- Pastinachus sephen** Forskal. Lower Burdekin River—Macleay 58. Moreton Bay—Ogilby 123.
- Tæniura mortoni** Macleay. Lower Burdekin River—Macleay 58.
- Tæniura lymna** Forskal. Cape York—Ogilby 95. Darnley Island—Ogilby 118. Murray Island; Port Douglas; St. Crispin Reef—McCulloch 78. Green Island—Ogilby 123.
- Urogymnus africanus** Bloch. Cape York—Macleay 56. Darnley Island—Ogilby 123.
- Pteroplatea australis** Ramsay & Ogilby. Moreton Bay—Ogilby 111.

Family MYLIOBATIDÆ.

- Myliobatis australis** Macleay. Lady Elliott Island—Kent 47.
- Myliobatis hamlyni** Ogilby. Moreton Bay—Ogilby 117.
- Aëtobatis narinari** Euphrasen. Cape York—Macleay 56. Moreton Bay; Wide Bay—Ogilby 123.

Family RHINOPTERIDÆ.

- Rhinoptera neglecta** Ogilby. Moreton Bay—De Vis 159, as *R. javanica* Muller & Henle.

Family MOBULIDÆ.

- Mobula eregoodoo** Cantor. Palm Islands—Kent 47. Moreton Bay—Ogilby 123.

Subclass HOLOCEPHALI.

Order CHIMÆROIDEI.

Family CALLORHYNCHIDÆ.

- (**Callorhynchus millii** Bory. Port Denison—Gunther 32, as *C. antarcticus*. Record incorrect.)

Class PISCES.

Subclass DIPNEUSTA.

Order SIRENOIDEI.

Family CERATODONTIDÆ.

Neoceratodus forsteri Krefft. Wide Bay—Krefft 50. Mary River—Gunther 36, as *Ceratodus miolepis*. Fitzroy River—Castelnau 8, as *N. blanchardi*. Eidsvold, Burnett River—Johnston & Bancroft 40. Introduced into Coomera River; North Pine River; Albert River; Cressbrook; Enoggera; Bundaberg; Warwick, Condamine River; Brisbane—O'Connor 94. Burnett River—Weber 170. Burnett River—Macleay 56; the range was incorrectly extended to the Dawson River by Macleay *loc. cit.*

Ompax spatuloides Castelnau. Burnett River—Castelnau 11. See Gunther, Zool. Record xvi, (1879) 1881, Pisces p. 5.

Subclass ACTINOPTERI.

Superorder TELEOSTEI.

Order ISOSPONDYLI.

Family ELOPIDÆ.

Elops hawaiiensis Regan. Brisbane—Castelnau 9, as *E. saurus*. Endeavour River—Klunzinger 49. Lower Burdekin River—Macleay 58. Moreton Bay—Ogilby 119.

Family MEGALOPIDÆ.

Megalops cyprinoides Broussonet. Mary River—Gunther 36. Cape York—Steindachner 147, and Gunther 30. Lagoon near Brisbane—Castelnau 7, as *Brisbania staigeri*. Lower Burdekin River—Macleay 58. Rockhampton; Townsville—Kent 47. Moreton Bay—Kent 48, and Ogilby 119.

Family ALBULIDÆ.

Albula vulpes Linnæus. North Queensland—Kent 47, as *A. conorhynchus*. Southport—Ogilby 112. Moreton Bay—Ogilby 119, as *A. glossodonta*.

Family OSTEOGLOSSIDÆ.

Scleropages leichhardti Gunther. Queensland—Gunther 26. Dawson River—Macleay 56. Fitzroy River—Kent 47. Dawson River—Bancroft 3.

Scleropages jardinei Kent. Rivers of Gulf of Carpentaria—Kent 46. Batavia, Norman, and Gregory Rivers—Kent 47.

Scleropages guentheri Castelnau. Queensland—Castelnau 8.

Family CHIROCENTRIDÆ.

Chirocentrus dorab Forskal. Somerset, Cape York—Gunther 36. Queensland—Klunzinger 49. Lower Burdekin River—Macleay 58. Torres Strait—Kent 47.

Family DUSSUMIERIIDÆ.

Dussumieria hasseltii Bleeker. Cape York—Ogilby 123.

Stolephorus robustus Ogilby. Southport—Ogilby 111. Moreton Bay—Ogilby 119. Bulwer—McCulloch 78.

Stolephorus delicatulus Bennett. Darnley Island—Alleyne & Macleay 1. Murray Island—McCulloch 66, and Ogilby 123.

Family CLUPEIDÆ.

- Clupea profundus* Kent. Queensland—Kent 47. *Nom. nud.*
Clupea torresiensis Kent. Queensland—Kent 47. *Nom. nud.*
Clupea ranelayi Kent. Queensland—Kent 47. *Nom. nud.*
Clupea macrolepis Steindachner. Townsville; Cleveland Bay—Steindachner 150.
Sardinella gibbosa Bleeker. Bramble Cay, Torres Strait—Alleyne & Macleay 1, as *C. tembang* Bleeker.
Harengula castelnaui Ogilby. Queensland—Klunzinger 49, as *C. hypselosoma* Bleeker. Lower Burdekin River—Macleay 58, as *C. sundaica* Bleeker. Torres Strait—Kent 47. Moreton Bay—Ogilby 119. Nerang River—Tosh 152.
Harengula punctata Rüppell. Darnley Island—Ogilby 105, as *H. stereolepis*. Murray Island—McCulloch 66, as *Sardinella kunzei* Bleeker. Darnley Island—Cockerell 14, as *Sardinella moluccensis* Bleeker.
Sardinia neopilchardus Steindachner. Moreton Island—Ogilby 110. Moreton Bay—Ogilby 119. Hervey Bay—Ogilby 123.
Potamalosa novæ-hollandiæ Cuvier & Valenciennes. Queensland—Kent 47. No reliance can be placed on this identification, and further proof of the occurrence of this fish in Queensland is necessary.
Hyperlophus vittatus Castelnau. Southport—Ogilby 111, as *H. copii*. Mud Island—Ogilby 112. Moreton Bay—McCulloch 75.
Ilisha hoevenii Bleeker. Between Cairns and Rockhampton—McCulloch 83.

Family DOROSOMIDÆ.

- Nematalosa come* Richardson. Queensland—Kent 47, as *Chatoessus nasus*. Burnett River—Weber 170. Queensland, marine—Ogilby 122.
Nematalosa erebi Gunther. Tiaro, Mary River; ? 27° 9' S. lat. 144° E. long.—Gunther 36. Cape York—Gunther 30. Brisbane River; Norman River—Castelnau 9. Burnett River; Fitzroy River—Macleay 53. Palmer River—Macleay 57. Lower Burdekin River—Macleay 58. Burnett River—Weber 170. Norman River—Ogilby 122.
Nematalosa horni Zeitz. Bulloo Creek—Regan 141.
Nematalosa elongatus Macleay. Mary River—Macleay 58. Longreach, Thomson River—Johnston & Bancroft 42.

Family CHANIDÆ.

- Chanos chanos* Forskal. Cape York—Steindachner 147, and Gunther 30. Lower Burdekin River—Macleay 58. Moreton Bay—O'Connor 92, and Ogilby 119.

Family ENGRAULIDÆ.

- Engraulis australis* Shaw. Southport—Ogilby 112. Moreton Bay—Ogilby 119.
Anchoviella nasutus Castelnau. Norman River—Castelnau 10. Brisbane River—De Vis 153.

- Anchoviella carpentariae* De Vis. Norman River—De Vis 153.
Anchoviella heterolobus Klunzinger. Cleveland Bay—Klunzinger 49.
Anchoviella æstuariorum Ogilby. Brisbane River—De Vis 153, as *Engraulis* sp. Brisbane and other rivers of S.E. Queensland—Ogilby 116. Moreton Bay—Ogilby 119.
Thrissocles mystax Bloch & Schneider. Queensland—Klunzinger 49.
Thrissocles setirostris Broussonet. Cooktown—Ogilby 120.
Thrissocles hamiltoni Gray. Lower Burdekin River—Macleay 58.
Thrissocles dussumieri Cuvier & Valenciennes ? Queensland—Weber & Beaufort 172.

Family SALMONIDÆ.

- Salmo fario* Linnæus. Brisbane, introduced—O'Connor 92.

Family RETROPINNIDÆ.

- Retropinna semoni* Weber. Burnett River—Weber 170. Enoggera Creek—Ogilby 111. Upper Noosa River—Ogilby 125. Eidsvold ; Ithaca Creek, near Brisbane—McCulloch 78.

Family GALAXIIDÆ.

- Galaxias olidus* Gunther. Queensland ?—Gunther 27.
Galaxias oconnori Ogilby. Lyra, near Stanthorpe—Ogilby 118.

Family ALEPOCEPHALIDÆ.

- Alepocephalus niger* Gunther. 75 miles E.S.E. of Raine Island, 1,400 faths.—Gunther 35.

Family STOMIATIDÆ.

- Pachystomias microdon* Gunther. Coral Sea, about 500 miles from the Queensland coast, 2,440 fathoms—Gunther 38.

Family GONORHYNCHIDÆ.

- Gonorhynchus parvimanus* Ogilby. Moreton Bay—Ogilby 119. Young of *G. greyi* Richardson ?

Order EVENTOGNATHI.

Family CYPRINIDÆ.

- Carassius carassius* Linnæus. Queensland, introduced—O'Connor 92.
Leuciscus australis Castelnau. Norman River—Castelnau 10.
Tinca tinca Linnæus. Queensland, introduced—O'Connor 92.

Order NEMATOGNATHI.

Family PLOTOSIDÆ.

- Plotosus anguillaris* Lacepede. Moreton Bay—Gunther 25. Endeavour River—Macleay 56.
Plotosus laticeps Kent. Queensland—Kent 47. *Nom. nud.*
Paraplotosus albilabris Cuvier & Valenciennes. Dunk Island—Ogilby 112.

- Tandanus tandanus** Mitchell. Tiaro, Mary River—Gunther 36. Burnett River—Weber 170. Moreton Bay rivers—Ogilby 119. Upper Noosa River—Ogilby 125.
- Tandanus labrosus** (De Vis) Kent. Queensland—Kent 47. *Nom. nud.*
- Tandanus lævis** (De Vis) Kent. Queensland—Kent 47. *Nom. nud.*
- Tandanus curtus** Kent. Queensland—Kent 47. *Nom. nud.*
- Tandanus, Neosilurus, hyrtlil Steindachner.** Queensland, 27° 9' S. lat. 144° E. long.—Gunther 36. Mary River—Macleay 58. Fitzroy River, Rockhampton—Steindachner 146. Cape York—Castelnau 7, as *Silurichthys australis*. Rockhampton—Castelnau 9. Rockhampton or Brisbane River (probably Rockhampton)—Castelnau 10, as *Eumeda elongata*. Palmer River—Macleay 57. Bulloo River—Johnston & Bancroft 42. Moreton Bay rivers—Ogilby 119.
- Tandanus, Neosilurus, robustus** Ogilby. Keppel Bay—Ogilby 111.
- Tandanus, Neosilurus, mediobarbis** Ogilby. Queensland?—Ogilby 111.
- Tandanus, Neosilurus, brevidorsalis** Gunther. Cape York—Gunther 29.
- Endorthis longifilis** Macleay. Long Island, Torres Strait—Macleay 56.
- Euristmus elongatus** Castelnau. Brisbane River—Castelnau 9. Norman River—Castelnau 10.
- Euristmus lepturus** Gunther. Queensland?—Alleyne & Macleay 1. Moreton Bay—Ogilby 119.

Family ARIIDÆ.

- Tachysurus broadbenti** Ogilby. Cape York—Ogilby 111.
- Netuma thalassina** Rüppell. Torres Strait—Alleyne & Macleay 1. Queensland—Klunzinger 49. Moreton Bay—Kent 47, and Ogilby 119.
- Netuma australis** Gunther. Tiaro, Mary River—Gunther 36. Norman River—Castelnau 10. Burdekin River; Mary River—Macleay 58. Burnett River—Weber 170. Moreton Bay—Ogilby 119.
- Neoarius curtisii** Castelnau. Moreton Bay—Castelnau 9.
- Neamapteryx stirlingi** Ogilby. N.E. Queensland—Ogilby 111.

Order SYMBRANCHIA.

Family AMPHIPNOIDÆ.

- Amphipnous cuchia** H. Buchanan. Edcombe (? = Edgecombe) Bay—Ogilby 109.

Family FLUTIDÆ.

- Fluta alba** Zuiew? Cowan Cowan, Moreton Bay.—Ogilby 125.

Order APODES.

Family ANGUILLIDÆ.

- Anguilla mauritiana** Bennett. Mary River—Gunther 36.
- Anguilla marginipinnis** Macleay. Lillesmere Lagoon, Burdekin River—Macleay 58.
- Anguilla australis** Richardson. Queensland—Kent 47.

Anguilla reinhardtii Steindachner. Fitzroy River, Rockhampton—Steindachner 146. Cape York—Gunther 32. Mary River; Lillesmere Lagoon, Burdekin River—Macleay 58. Burnett River—Weber 170. Upper Noosa River—Ogilby 125.

Family LEPTOCEPHALIDÆ.

Leptocephalus labiatus Castelnau. South Queensland—Kent 47. Moreton Bay—Ogilby 121.

Leptocephalus marginatus Valenciennes. Low Island Reef, Torres Strait—Alleyne & Macleay 1. Torres Strait—Waite 167.

Leptocephalus conger Linnæus. Endeavour River—Macleay 56, as *Conger vulgaris*.

Family MURÆNESOCIDÆ.

Murænesox cinereus Forskal. Brisbane River—Castelnau 9.

Family ECHELIDÆ.

Murænichthys godeffroyi Regan. Bowen—Regan 139.

Family OPHICHTHYIDÆ.

Leiuranus semicinctus Lay & Bennett. Murray Island—McCulloch 62. Darnley Island—Ogilby 118.

Ophichthys cephalozona Bleeker. Cape York—Gunther 32.

Ophichthys elapsoides Castelnau. Cape York—Castelnau 7.

Ophichthys episcopus Castelnau. Moreton Bay—Castelnau 9.

Family MORINGUIDÆ.

Moringua javanicus Kaup. Thursday Island—Weber 170.

Family MURÆNIDÆ.

Evenchelys macrura Bleeker. Pine River; Brisbane River—Ogilby 109.

Echidna nebulosa Ahl. Trinity Bay—Gunther 32. Reefs of Queensland and Torres Strait—Alleyne & Macleay 1.

Echidna polyzona Richardson. Torres Strait—Ogilby 109.

Uropterygius concolor Rüppell. Cape York—Gunther 32.

Gymnothorax petelli Bleeker. Queensland—Kent 47.

Gymnothorax prasinus Richardson? Queensland—Kent 47, as *Muræna asra*.

Gymnothorax javanicus Bleeker. Darnley Island—Richardson 143.

Gymnothorax pictus Ahl. Moreton Bay—Castelnau 11, as *Muræna siderea*.

Gymnothorax favagineus Bloch & Schneider. Endeavour River—Macleay 56, as *Muræna tessellata*. Great Barrier Reef—Kent 47. Endeavour River—Ogilby 109.

- Gymnothorax stellatus* Lacepede. Torres Strait reefs—Alleyne & Macleay 1.
Gymnothorax undulatus Lacepede. Cape Upstart—Richardson 143. Low Island, Torres Strait—Alleyne & Macleay 1. Port Denison—Klunzinger 49.
Gymnothorax melanospilus Bleeker. Darnley Island. Alleyne & Macleay 1.
Gymnothorax pseudothyrsoides Bleeker. Darnley Island—Alleyne & Macleay 1.
Gymnothorax makassariensis Bleeker. Cape York—Gunther 32.
Gymnothorax margaritophorus Bleeker. Wide Bay district—Ogilby 118.
Gymnothorax sp. ? Queensland—Kent 47, as *Anguilla richardsonii*.

Order INIOMI.

Family AULOPIDÆ.

- Aulopus purpurissatus* Richardson. Off Moreton Bay ; Laguna Bay ; Tewantin ; Mount Tempest—Ogilby 112.

Family SYNODONTIDÆ.

- Saurida argentea* Macleay. Endeavour River—Macleay 56. Cooktown ; Townsville ; Bowen—Kent 47.
Saurida tumbil Bloch. Queensland—Klunzinger 49, as *S. undosquamis*.
Saurida grandisquamis Gunther. Cape Grenville—Alleyne & Macleay 1.
Saurida filamentosa Ogilby. Off Cape Moreton—Ogilby 114.
Synodus japonicus Houttuyn. Murray Island—McCulloch 81.
Synodus haulti McCulloch. Capricorn Group—McCulloch 81.
Synodus similis McCulloch. Capricorn Group—McCulloch 81.
Trachinocephalus myops Forster. Moreton Bay—Ogilby 121, as *T. limbatus*. Eydoux & Souleyet.
Xystodus banfieldi Ogilby. Near Dunk Island—Ogilby 115.

Family MYCTOPHIDÆ.

- Dasyscopeus cuvieri* Castelnau. Nob or Knob Island, Torres Strait—Castelnau 6.

Order AULOSTOMI.

Family AULOSTOMIDÆ.

- Aulostomus chinensis* Linnæus. Nob or Knob Island—Castelnau 6.

Family FISTULARIIDÆ.

- Fistularia serrata* Cuvier. Nob or Knob Island—Castelnau 6. Cooktown ; Lady Elliott Island ; Moreton Bay—Kent 47.

Family MACRORHAMPHOSIDÆ.

- Macrorhamphosus elevatus* Waite. Queensland—Kent 47, as *Centriscus scolopax*. Off Cape Moreton—Ogilby 114, as *M. lancifer*. Moreton Bay—Ogilby 114, as *M. robustus*.
Macrorhamphosus velitaris Pallas. Moreton Bay—De Vis 161.

Family CENTRISCIDÆ.

- Æoliscus strigatus* Gunther. Cape York—Castelnau 7.
Centriscus sp. Ramsay. Wide Bay—Ramsay 136, as *Amphisile*.
Centriscus cristatus De Vis. Noosa—De Vis 158. Queensland—Kent 47, as *Amphisile scutata*. Moreton Bay to Hummocky Island; Boomerang Hill; Jenny Lind Buoy, Port Curtis; Cape Capricorn; Double Island Point; Hervey Bay; Platypus Bay; Bustard Bay—Ogilby 117. Cooktown—McCulloch 70.
Centriscus scutatus Linnæus. Thursday Island—Weber 89, and Weber & Beaufort 125.

Order THORACOSTEI.

Family SYNGNATHIDÆ.

- Syngnathus nitidus* Gunther. Bowen—Duncker 19.
Corythoichthys altirostris Ogilby. Moreton Bay—Ogilby 99.
Corythoichthys fasciatus Gray. Cairns Reef, off Cooktown—McCulloch 61, as *C. waitei*. Darnley Island—Ogilby 120.
Corythoichthys pœcilolæmus Peters. Noble Island—Sauvage 144, as *Syngnathus modestus*.
Corythoichthys margaritifer Peters. Queensland?—Castelnau 7. Bowen—Duncker 18.
Halicampus koilomatodon Bleeker. Thursday Island; Prince of Wales Island—Gunther 37, as *Syngnathus trachypoma*.
Micrognathus brevirostris Rüppell. Thursday Island—Weber 170, as *Syngnathus tetrophthalmus* Bleeker. Cape York—Ogilby 111, as *Corythoichthys spinicaudatus*.
Ichthyocampus cinctus Ramsay. Moreton Bay—Ogilby 111.
Ichthyocampus tryoni Ogilby. Moreton Bay—Ogilby 99.
(Ichthyocampus galei) Duncker. Wrongly recorded from Queensland by Boulenger 5.)
Ichthyocampus maculatus Alleyne & Macleay. Darnley Island—Alleyne & Macleay 1.
Microphis brachyurus Bleeker. Moreton Bay—Ogilby 118, as *Doryichthys stictorhynchus*.
Doryrhamphus melanopleura Bleeker. Murray Island; Cairns Reef; Masthead Island—McCulloch 61, as *Microphis pleurotænia* Gunther.
Chcerichthys brachysoma Bleeker. Port Molle—Gunther 37, as *Doryichthys serialis*. Cape York—Duncker 18, as *C. valenciennæi* Kaup.
Stigmatopora nigra Kaup. Bulwer—Ogilby 118.
Syngnathoides biaculeatus Bloch. Cape York—Gunther 32. Torres Strait—Littlejohn 131.
Solegnathus guntheri Duncker. Moreton Bay—Kent 48, as *Solengognathus hardwickii*.
Haliichthys tæniophorus Gray. Cape York—Gunther 36. Prince of Wales Island—Weber & Beaufort 173.
Hippocampus hippocampus Linnæus. Cape York—Gunther 32, as *H. antiquorum*.

Hippocampus dahli Ogilby. Moreton Bay ; Noosa—Ogilby 111.

Hippocampus spinosissimus Weber. Thursday Island—Weber 170, as *H. (erinaceus* Gunther ?).

Acentronura tentaculata Gunther. Mabuiag, Torres Strait—Duncker 19.

Order HYPOSTOMIDES.

Family PEGASIDÆ.

Pegasus volitans Linnæus. Queensland coast—Ogilby 118, as *P. draconis* Linnæus.

Parapegasmus natans Linnæus. Somerset, Cape York—Gunther 36. Hammond Island, Torres Strait ; Moreton Bay—Gunther 32. Off Cape Capricorn and Double Island Point—McCulloch 70.

Order SYNENTOGNATHI.

Family BELONIDÆ.

Tylosurus strongylurus van Hasselt. Somerset, Cape York—Gunther 36. Thursday Island—Ogilby 120, as *T. caudimaculatus* Cuvier.

Tylosurus macleayanus Ogilby. Moreton Bay—Ogilby 112, as *T. impotens*.

Tylosurus gavioloides Castelnau. Queensland—Kent 47.

Tylosurus krefftii Gunther. Norman River—Castelnau 10. Burdekin River—Macleay 58. Fitzroy River, Rockhampton—Kent 47.

Tylosurus depressus Poey. Moreton Bay—Kent 47.

Tylosurus giganteus Temminck & Schlegel. Somerset, Cape York—Gunther 36. Percy Islands ; Cape York—Alleyne & Macleay 1, as *Belone annulata* Cuvier & Valenciennes. Port Denison—Klunzinger 49. Moreton Bay—De Vis 162.

Tylosurus coromandelicus van Hasselt. Cape York—Alleyne & Macleay 1, as *Belone melanotus* Bleeker.

Tylosurus quoyi Cuvier & Valenciennes. Endeavour River—Klunzinger 49.

Tylosurus staigeri Kent. Queensland—Kent 47. *Nom. nud.*

Tylosurus tyrannus Kent. Queensland—Kent 47. *Nom. nud.*

Tylosurus vorax Kent. Queensland—Kent 47. *Nom. nud.*

Tylosurus ferox Gunther. Queensland—Castelnau 9.

Athlennes hians Cuvier & Valenciennes. Moreton Bay—Ogilby 123, as *A. cæruleo-fasciatus* Stead, and Cockerell 15, as *Tylosurus schismatorhynchus* Bleeker.

Family HEMIRHAMPHIDÆ.

Hyporhamphus intermedius Cantor. Queensland—Castelnau 7, as *Hemirhamphus melanocheir* Cuvier & Valenciennes. Cleveland Bay—Klunzinger 49. Brisbane—Castelnau 11.

Hyporhamphus regularis Gunther. Queensland—Kent 47, and Cockerell 13.

Hemirhamphus quoyi Cuvier & Valenciennes. Somerset, Cape York—Gunther 36. Queensland—Cockerell 13. Moreton Bay ; Brisbane River—Ogilby 121.

- Hemirhamphus welsbyi* Ogilby. Moreton Bay—Ogilby 112.
Hemirhamphus far Forskal. Somerset, Cape York—Gunther 36, as *H. commersonii* Cuvier. Cooktown—Kent 47. Thursday Island—Kent 47, and Weber 170.
Hemirhamphus argenteus Bennett. Brisbane River—Castelnau 9, as *H. breviceps*. Moreton Bay—Kent 47.
Hemirhamphus marginatus Forskal. Palm Islands—Alleyne & Macleay 1.
Zenarchopterus dispar Cuvier & Valenciennes. Torres Strait—Ogilby 120.
Arrhamphus sclerolepis Gunther. Tiaro, Mary River—Gunther 36. Port Denison—Klunzinger 49. Brisbane—Macleay 56.
Euleptorhamphus longirostris Cuvier. Wide Bay—Ogilby 121.

Family EXOCÆTIDÆ.

- Exocætus volitans* Linnæus. Queensland—Kent 47, as *E. volans* Linnæus.
Exocætus nigripinnis Cuvier & Valenciennes. Queensland, south to Moreton Bay—Kent 47.
Cypselurus melanocercus Ogilby. Moreton Bay—Ogilby 111.
Exonantes oxycephalus Bleeker. Torres Strait—Ogilby 111.
Parexocætus brachypterus Richardson. Cape York—Gunther 29, as *Exocætus atrodorsalis*.

Order BERYCOIDEI.

Family BERYCIDÆ.

- Trachichthodes affinis* Gunther. Moreton Bay—Ogilby 121.

Family TRACHICHTHYIDÆ.

- Trachichthys australis* Shaw & Nodder. Pimpama Island, Moreton Bay—Ogilby 120.
Hoplostethus elongatus Gunther. Moreton Bay—Ogilby 118.

Family MONOCENTRIDÆ.

- Cleidopus gloria-maris* De Vis. Brisbane River—De Vis 153.

Family HOLOCENTRIDÆ.

- Holocentrus ruber* Forskal. Barrier Reef—Cockerell 15.
Ostichthys australis Castelnau. Cape York—Castelnau 7.
Neomyripristis amænus Castelnau. Nob or Knob Island—Castelnau 6.
Neoniphon armatus Castelnau. Cape York—Castelnau 7.
Neoniphon hasta De Vis. Queensland—De Vis 157.

Order ALLOTRIOGNATHI.

Family REGALECIDÆ.

- Regalecus glesne* Ascanius. Near Tweed River, Queensland—De Vis 163, as *R. mastersii*.

Family TRACHIPTERIDÆ.

Trachipterus jacksoniensis Ramsay. Southport—Marshall 60a.

Order PERCOMORPHI.

Suborder PERCESOCES.

Family ATHERINIDÆ.

Atherina elongata Klunzinger. Queensland—Kent 47. Identification unreliable.

Atherina mugiloides McCulloch. Cape York—De Vis 158, as *Atherinichthys punctatus*.

Hepsetia pinguis Lacepede. Cape York ?—Alleyne & Macleay 1, as *Atherina lacunosa*.
Moreton Bay—Ogilby 118.

Hepsetia lacunosa Forskal. Bulwer, Moreton Bay—Ogilby 118.

Craterocephalus fluviatilis McCulloch. McIntyre River—McCulloch 65.

Craterocephalus stercus-muscarum Gunther. Cape York—Gunther 29. Lillesmere Lagoon, Burdekin River—Macleay 58. Cairns; Townsville; Eidsvold, Burnett River; Brisbane—McCulloch 65, as *C. maculatus* Macleay.

Craterocephalus sp. Weber. Burnett River—Weber 170.

Craterocephalus ? *honorisæ* Ogilby. Nerang Creek—Ogilby 118.

Family MELANOTÆNIIDÆ.

Rhadinocentrus ornatus Regan. Moreton Island—Regan 140. Cowan Cowan, Moreton Bay—Ogilby 125, and Messmer, Qld. Nat. iv. 5, 1924, p. 95.

Pseudomugil signifer Kner. Cape York—Gunther 29, as *Atherina signata*. Bremer River, tributary of Brisbane River—Macleay 59, as *Atherinosoma jamesoni*. Rivers of South Queensland—Cooling 16.

Melanotænia nigrans Richardson. Tiaro, Mary River; 27° 9' S. lat. 144° E. long.—Gunther 36, as *Atherinichthys nigrans*. Fitzroy River, Rockhampton—Steindachner 146, as *Strabo nigrofasciatus* Kner & Steindachner. Rockhampton; Brisbane; Port Denison; Cape York—Gunther 29, as *Nemato-centris nigra*. Gulf of Carpentaria—Castelnau 7, as *Aida inornata*. Fitzroy River, Rockhampton—Castelnau 10, as *Aristeus fitzroyensis*. Rivers of North Queensland—Macleay 55, as *Aristeus rufescens*. Palmer River—Macleay 57, as *Aristeus cavifrons*. Maryborough—De Vis 157, as *Aristeus perporosus*. Cairns—Macleay 60, as *Aristeus rufescens* Macleay. Burnett River—Weber 170, as *Aida inornata* Castelnau. Brisbane; Rockhampton—Cooling 16, as *Rhombatractus fitzroyensis* Castelnau. Upper Noosa River—Ogilby 125, as *M. fitzroyensis* Castelnau. Barron River—Ogilby 122, as *M. maccullochi*.

Family MUGILIDÆ.

Mugil cephalus Linnæus. Tiaro, Mary River—Gunther 36, as *M. cephalotus* Cuvier & Valenciennes. Norman River—Castelnau 10, as *M. dobula*. Brisbane—Macleay 56, as *M. grandis* Castelnau. Burdekin and Mary Rivers—Macleay 58. Moreton Bay to Cooktown—Kent 47. Mary River—Ogilby 104, as *M. oeur*. Moreton Bay—Tosh 152.

- Mugil delicatus* Alleyne & Macleay. Cape York—Alleyne and Macleay 1. Cape Grenville—Macleay 56.
- Mugil marginalis* De Vis. Brisbane—De Vis 158.
- Mugil convexus* De Vis. Cardwell—De Vis 158.
- Mugil georgii* Ogilby. Moreton Bay—Tosh 152. Brisbane River—McCulloch 79.
- Mugil dussumieri* (Cuvier & Valenciennes) Day. Gold Island, Rockingham Bay—Ogilby 111, as *M. stevensi*.
- Mugil longimanus* Gunther. Cleveland Bay—Steindachner 150, and Klunzinger 49. Brisbane—De Vis 158.
- Mugil cunnesius* Cuvier & Valenciennes. Burnett River—Weber 170.
- Mugil tade* Forskal. Cleveland Bay—Klunzinger 49. Brisbane—De Vis 158.
- Mugil tadopsis* Ogilby. Moreton Bay—Ogilby 111. Burdekin and Endeavour River estuaries—McCulloch 79.
- Mugil ramsayi* Macleay. Burdekin River—Macleay 58.
- Mugil subviridis* Cuvier & Valenciennes. Cape York—Gunther 29.
- Mugil, Liza, argenteus* Quoy & Gaimard. Fitzroy River, near Rockhampton—Macleay 54. Moreton Bay—Tosh 152.
- Mugil, Liza, compressa* Gunther. Norman River—Castelnau 10. Queensland—Klunzinger 49.
- Mugil, Liza, waigiensis* Quoy & Gaimard. Somerset, Cape York—Gunther 36. Port Denison—Klunzinger 49. Lower Burdekin River—Macleay 58. Cleveland Bay—Stead 145.
- Mugil, Liza, splendens* De Vis. Cardwell—De Vis 158.
- Mugil, Liza, papillosa* Macleay. Moreton Bay—Tosh 152.
- Mugil, Liza, planiceps* Cuvier & Valenciennes. Jumping Pin, Moreton Bay—Tosh 152.
- Squalomugil nasutus* De Vis. Cardwell—De Vis 154. Rockingham Bay—Macleay 59.
- Trachystoma petardi* Castelnau. Nerang River—Tosh 152, as *Liza breviceps*.
- Myxus elongatus* Gunther. Tiaro, Mary River—Gunther 36. Southern Queensland—Ogilby 104. Moreton Bay—Tosh 152.

Family SPHYRÆNIDÆ.

- Sphyræna brachygnathos* Bleeker. Moreton Bay—Ogilby 112.
- Sphyræna novæ-hollandiæ* Gunther. Moreton Bay—Ogilby 120.
- Sphyræna obtusata* Cuvier & Valenciennes. Moreton Bay—De Vis 155, as *S. strenua*. Moreton Bay—Tosh 152.
- Sphyræna langsar* Bleeker. Northern Queensland—Kent 47.
- Sphyræna dentatus* (De Vis) Kent. Moreton Bay—Kent 47. *Nom. nud.*
- Sphyræna commersonii* Cuvier & Valenciennes. Nob or Knob Island—Castelnau 6.

Suborder RHEGNOPTERI.

Family POLYNEMIDÆ.

- Polynemus specularis** De Vis. Brisbane River—De Vis 155. Moreton Bay—Ogilby 117.
- Polynemus sheridani** Macleay. Mary River—Macleay 59. Burnett River—Kent 47.
- Polynemus indicus** Shaw. Queensland—Kent 47.
- Polynemus macrochir** Gunther. Queensland—Kent 47.
- Polynemus multiradiatus** Gunther. Brisbane River—De Vis 157. Thursday Island—Ogilby 120.
- Polynemus, Eleutheronema, tetradactylus** Shaw. Cleveland Bay—Klunzinger 49. Lower Burdekin River—Macleay 58. Endeavour River—Kent 47. Queensland 47, as *Polynemus cæcus* Macleay.

Series SCOMBRIFORMES.

Family SCOMBRIDÆ.

- Scomber australasicus** Cuvier & Valenciennes. Queensland—Macleay 55. Moreton Bay—Ogilby 121, as *S. japonicus* Houttuyn.
- Rastrelliger kanagurta** Russell. Queensland—Klunzinger 49.
- Scomberomorus commersonii** Lacepede. Queensland—Kent 47. Moreton Bay—Ogilby 121.
- Scomberomorus semifasciatus** Macleay. Lower Burdekin River—Macleay 58.
- Scomberomorus guttatus** Bloch & Schneider. Moreton Bay—Ogilby 121.
- Scomberomorus tigris** De Vis. Cape York—De Vis 157.
- Gasterochisma melampus** Richardson. Moreton Bay—Ogilby 118.

Family THUNNIDÆ.

- Thunnus, Thunnus, maccoyi** Castelnau. Queensland—Kent 47. Moreton Bay—Ogilby 112, as *Thunnus thynnus* Linnæus.
- Grammatorcynus bicarinatus** Quoy & Gaimard. Cape Moreton—Ogilby 125.

Family TRICHIURIDÆ.

- Trichiurus savala** Cuvier & Valenciennes. Moreton Bay—Ogilby 120.
- Trichiurus haumela** Forskal. Queensland?—Kent 47. Thursday Island—Ogilby 120.

Family ISTIOPHORIDÆ.

- Tetrapturus indicus** Cuvier & Valenciennes. Northern Queensland—Ogilby 121.

Series STROMATEIFORMES.

Family NOMEIDÆ.

- Nomeus gronovii** Gmelin. Cowan Cowan, Moreton Bay—Ogilby 125.
- Psenes whiteleggii** Waite. Cowan Cowan, Moreton Bay—Ogilby 125.
- Psenes hilli** Ogilby. Cowan Cowan, Moreton Bay—Ogilby 122.

Family CENTROLOPHIDÆ.

Schedophilus maculatus Gunther. Moreton Bay—Ogilby 123.

Series CARANGIFORMES.

Family APOLECTIDÆ.

Apolectus niger Bloch. Cairns ; Townsville—Kent 47. Coomera River—Ogilby 125.

Family MENIDÆ.

Mene maculata Bloch & Schneider. Between Cairns and Rockhampton—McCulloch 83.

Family CARANGIDÆ.

Megalaspis cordyla Linnæus. Off Bowen—McCulloch 70.

Decapterus rüsselli Rüppell. Cape York—De Vis 157, as *Caranx ecclipsifer*. Moreton Bay—Ogilby 115. Darnley Island—Ogilby 120. Bustard Bay—McCulloch 70.

Trachurus declivis Jenyns. Cape Moreton—Ogilby 112. Wide Bay—McCulloch 70.

Caranx kalla Cuvier & Valenciennes. Queensland coast—De Vis 157, as *Micropteryx queenslandiæ*. North-east of Bowen—McCulloch 70. Coast of middle Queensland—Ogilby 122.

Caranx speciosus Forskal. Somerset, Cape York—Gunther 36. Percy Islands—Alleyne & Macleay 1, as *C. edentulus*. Cleveland Bay—Klunzinger 49. North Queensland—De Vis 157, as *C. cives*. Moreton Bay ; Southport ; Darnley Island—Ogilby 122.

Caranx bucculentus Alleyne & Macleay. Cape Grenville—Alleyne & Macleay 1. Moreton Bay—Kent 47, as *C. nobilis* Macleay. Townsville ; Pine Peak ; off Cape Gloucester ; Edgecumbe Bay—Ogilby 122. Off Pine Peak and Bustard Head—McCulloch 70.

Caranx gracilis Ogilby. Darnley Island—Ogilby 122.

Caranx chrysophrys Cuvier & Valenciennes. Bowen ; off Pine Peak—Ogilby 122. Off Bustard Head ; Wide Bay—McCulloch 70.

Caranx aurochs Ogilby. Edgecumbe Bay ; Hervey Bay ; Bustard Bay ; Pine Peak—Ogilby 122. Off Pine Peak ; off Bowen—McCulloch 70.

Caranx ignobilis Forskal. Cleveland Bay—Klunzinger 49. Cape York—McCulloch 70.

Caranx altissimus Jordan & Seale. Southern Queensland—McCulloch 70.

Caranx parasitus Garman. Cairns—Garman 20.

Caranx georgianus Cuvier & Valenciennes. Percy Islands—Alleyne & Macleay 1. Lower Burdekin River—Macleay 58. Moreton Bay—McCulloch 70.

Caranx leptolepis Cuvier & Valenciennes. Cape York—De Vis 157, as *C. procaranx*. North-west of Pine Peak—McCulloch 70. Cape York—McCulloch 87.

Caranx forsteri Cuvier & Valenciennes. Torres Strait—Richardson 143, as *C. parapistes*. Cape York—Alleyne & Macleay 1, as *C. hippos* Linnæus. Cleveland Bay—Klunzinger 49, as *C. hippos* Linnæus. Moreton Bay—Ogilby 121.

- Caranx malam** Bleeker. Off Double Island Point ; off Pine Peak—McCulloch 70.
- Caranx armatus** Forskal. Somerset, Cape York—Gunther 36. Cape York—Alleyne & Macleay 1. Endeavour River—Klunzinger 49.
- Caranx humerosus** McCulloch. Off Pine Peak ; Bustard Bay ; near Bowen—McCulloch 70.
- Caranx radiatus** Macleay. Rockingham Bay—Macleay 55. Lower Burdekin River—Macleay 58, as *C. compressus* Macleay. Barrier Reef—Kent 47.
- Caranx oblongus** Cuvier & Valenciennes. Cairns—De Vis 157, as *C. auriga*. Queensland—Kent 47, as *C. aurifer* (misprint for *auriga*).
- Caranx filigera** Kent. Queensland—Kent 47. *Nom. nud.*
- Caranx valenciennei** Castelnau. Nob or Knob Island—Castelnau 6.
- Selar boops** Cuvier & Valenciennes. Cape York—Castelnau 7, as *Carang gervaisi*.
- Alectis indica** Rüppell. Queensland—Klunzinger 49, as *Caranx gallus* Linnæus. Endeavour River—Macleay 55. Port Denison and northwards—Kent 47. Off Bowen and Gloucester Head—McCulloch 70. Raine Island ; Thursday Island ; Burnett River ; Bowen—Ogilby 122.
- Alectis ciliaris** Bloch. Moreton Bay ; Edgecumbe Bay—Ogilby 122.
- Trachinotus botla** Shaw. Cloudy Bay, Percy Islands—Gunther 37, as *T. coppingeri*. South Passage, Moreton Bay—Ogilby 112, as *T. velox*. Moreton Bay—Tosh 152. Coolangatta ; Southport ; Great Sandy Strait—Ogilby 122.
- Trachinotus baillonii** Lacepede. Percy Islands—Alleyne & Macleay 1. Murray Island—McCulloch 67.
- Trachinotus ovatus** Linnæus. Percy Islands—Alleyne & Macleay 1. Cleveland Bay—Klunzinger 49. Somerset, Cape York—Gunther 36. Raine Island ; Darnley Island ; Moreton Bay—Ogilby 123.
- Trachinotus anak** Ogilby. Wide Bay district ; Great Sandy Strait ; off Moreton Bay—Ogilby 113.
- Scomberoides sancti-petri** Cuvier & Valenciennes. Port Denison—Klunzinger 49.
- Scomberoides tooloo** Cuvier & Valenciennes. Somerset, Cape York—Gunther 36. Cape York—Alleyne & Macleay 1. Lower Burdekin River—Macleay 58.
- Scomberoides maculosus** Kent. Queensland—Kent 47. *Nom. nud.*
- Scomberoides lysan** Forskal. Cape York—Alleyne & Macleay 1. Cleveland Bay—Klunzinger 49. Lower Burdekin River—Macleay 58. Moreton Bay—Kent 47.
- Eleria tala** Cuvier & Valenciennes. Darnley Island—Ogilby 120.
- Seriola grandis** Castelnau. Moreton Bay—Kent 47. North Reef—McCulloch 70.
- Seriola hippos** Gunther. Moreton Bay district—Ogilby 121.
- Naucrates ductor** Linnæus. Queensland coast—Ogilby 121.

Family LACTARIIDÆ.

- Lactarius lactarius** Bloch & Schneider. Queensland—Klunzinger 49.

Family POMATOMIDÆ.

Pomatomus saltatrix Linnæus. Queensland—Ogilby 100, as *Temnodon saltator* Bloch. Moreton Bay—Kent 47.

Pomatomus tubulus Kent. Queensland—Kent 47. *Nom. nud.*

Family RACHYCENTRIDÆ.

Rachycentron pondicerrianum Cuvier & Valenciennes. Claremont; Bowen; Port Denison—Kent 47, as *Elacate niger*. Moreton Bay—McCulloch 71.

Family LEIOGNATHIDÆ.

Gazza equuliformis Rüppell. Cape York—De Vis 157.

Leiognathus equula Bloch. Endeavour River—Macleay 55, as *Equula edentula* Bloch. Lower Burdekin River—Macleay 58. Cleveland Bay—Klunzinger 49, as *E. caballa* Cuv. & Val.

Leiognathus splendens Cuvier & Valenciennes. Cleveland Bay—Steindachner 150. Port Denison—Klunzinger 49.

Leiognathus novæ-hollandiæ Steindachner. Townsville; Cleveland Bay—Steindachner 150.

Leiognathus spiniceps Kent. Queensland—Kent 47. *Nom. nud.*

Leiognathus simplex De Vis. Cape York—De Vis 157.

Leiognathus lineolatus Rüppell. Cape York—De Vis 157.

Leiognathus gerreoides Blkr. Cape York—De Vis 157.

Leiognathus fasciatus Lacepede. Queensland—Kent 47.

Leiognathus decorus De Vis. Cape York—De Vis 157.

Leiognathus asinus De Vis. Cape York—De Vis 157.

Leiognathus profundus De Vis. Queensland coast—De Vis 157.

Leiognathus ovalis De Vis. Cape York—De Vis 157.

Leiognathus nuchalis Schlegel. Queensland—De Vis 157.

Leiognathus dispar De Vis. Cape York—De Vis 157.

Leiognathus argenteus De Vis. Cape York—De Vis 157.

Leiognathus hastatus Ogilby. Cape York—De Vis 157, as *Equula longispina*.

Leiognathus mortoniensis Ogilby. Bulwer, off Moreton Island—Ogilby 118.

Series KURTIFORMES.

Family KURTIDÆ.

Kurtus gulliveri Castelnau. Norman River—Castelnau 9.

Series PERCIFORMES.

Family PERCIDÆ.

Perca fluviatilis Linnæus. Queensland, introduced—O'Connor 92.

Family APOGONIDÆ.

- Apogon savayensis* Gunther. Murray Island ; Palm Islands ; Holbourne Island—McCulloch 80.
- Apogon fleurieu* Lacepede. Darnley Island—Ogilby 123.
- Apogon breviceaudatus* Weber. Dunk Island—Ogilby 117, as *A. berthæ*. Wide Bay—Ogilby 118. Near Capricorn Group ; Wide Bay—McCulloch 81.
- Apogon septemstriatus* Gunther. Near Bowen—McCulloch 70.
- Apogon ellioti* Day. Off Gloucester Head—McCulloch 70.
- Apogon fasciatus* Shaw. Cape Grenville ; ? Darnley Island—Alleyne & Macleay 1. Endeavour River ; Darnley Island—Macleay 55, as *A. cooki*.
- Apogon fasciatus novemfasciatus* Cuvier & Valenciennes. Murray Island—McCulloch 70.
- Apogon fasciatus aroubiensis* Hombron & Jacquinot. Murray Island—McCulloch 70.
- Apogon endekataenia* Bleeker. Green Island, Cairns ; Dunk Island—Ogilby 112. (*Apogon victoriæ* Gunther. Incorrectly recorded from Queensland by Castelnau 7.)
- Apogon quadrifasciatus* Cuvier & Valenciennes. Off Moreton Island ; Double Island Point ; Frazer Island ; Hervey Bay ; Platypus Bay ; near Gloucester Head—McCulloch 70.
- Apogon torresiensis* Castelnau. Cape York—Castelnau 7.
- Apogon trimaculatus* Cuvier & Valenciennes. Cape York—Castelnau 7. Palm Island—McCulloch 80.
- Apogon aterrimus* Gunther. Cape York—Gunther 29.
- Apogon simplex* De Vis. Cooktown—De Vis 157.
- Apogon rudis* De Vis. Cardwell—De Vis 157.
- Apogon australis* Steindachner. Fitzroy River, Rockhampton—Steindachner 146.
- Apogon nematacanthus* Ogilby. Darnley Island—Ogilby 120.
- Apogon guttulatus* Alleyne & Macleay. Darnley Island—Alleyne & Macleay 1.
- Apogon atripes* Ogilby. Sandgate—Ogilby 117, as *A. nigripes*. Off Hervey Bay ; off Double Island Point—McCulloch 70.
- Fowleria auritus* Cuvier & Valenciennes. Dunk Island ; Bell's Swamps—Ogilby 112.
- Fowleria marmoratus* Alleyne & Macleay. Cape Grenville—Alleyne and Macleay 1.
- Apogonichthys roseobrunneus* Macleay. River in North Queensland—Macleay 55.
- Apogonichthys nebulosus* Ogilby. Brisbane River—Ogilby 112.
- Apogonichthys longicauda* De Vis. Queensland—De Vis 157.
- Apogonichthys adpersus* Castelnau. Rockhampton—Castelnau 9.
- Apogonichthys darnleyensis* Alleyne & Macleay. Darnley Island—Alleyne & Macleay 1.
- Adenapogon roseigaster* Ramsay & Ogilby. Brisbane River—Ogilby 112.

- Glossamia aprion** Richardson. Norman River—Macleay 55, as *Gulliveria fasciata*; and Castelnau 10, as *G. fusca*.
- Glossamia gillii** Steindachner. Fitzroy River, Rockhampton—Steindachner 146. Burdekin River—Macleay 58. Eidsvold—Ogilby 120. Lillesmere Lagoon and Eidsvold, Burdekin River—McCulloch 75.
- Archamia macroptera** Kuhl & van Hasselt. Dunk Island—Ogilby 112.
- Cheilodipterus quinquelineatus** Cuvier and Valenciennes. Cape York—Castelnau 7.
- Cheilodipterus macrodon** Lacepede. Palm Islands—McCulloch 80.

Family AMBASSIDÆ.

- Ambassis agassizi** Steindachner. Fitzroy River, Rockhampton—Steindachner 146. South-east Queensland—McCulloch 82.
- Ambassis macleayi** Castelnau. Norman River—Castelnau 10.
- Ambassis elevatus** Macleay. Endeavour River—Macleay 55. Burnett River—Weber 170, as *A. muelleri*.
- Ambassis elongatus** Castelnau. Norman River—Castelnau 10.
- Ambassis convexus** De Vis. Queensland—De Vis 157.
- Ambassis pallidus** De Vis. Queensland—De Vis 157.
- Ambassis nigripinnis** De Vis. Brisbane River—De Vis 157.
- Ambassis gulliveri** Castelnau. Norman River—Castelnau 10.
- Ambassis nalua** Buchanan. Cape Bowling Green—Cockerell 15.
- Priopis agrammus** Gunther. Cape York—Gunther 29.
- Priopis nigripinnis** Ogilby. Inland creeks, Moreton district; Kilcoy Creek—Ogilby 115.
- Priopis olivaceus** Ogilby. Brisbane district—Ogilby 115 and Cooling 16.
- Priopis marianus** Gunther. Near Tiaro, Mary River—Gunther 36. Thursday Island—Ogilby 120. Moreton Bay—Tosh 152.

Family KUHLIIDÆ.

- Kuhlia rupestris** Lacepede. Rockingham Bay—Macleay 55, as *Dules haswellii*. Cairns—Macleay 60. Brisbane River—Kent 47.
- Kuhlia munda** De Vis. Cardwell—De Vis 157, as *Herops munda*. Queensland—De Vis 157, as *Dules humilis*. Queensland—Boulenger 4, as *K. malo* Cuvier & Valenciennes.
- Kuhlia produles** Kent. Queensland—Kent 47. *Nom. nud.*

Family LATIDÆ.

- Lates calcarifer** Bloch. Fitzroy River—Gunther 31. Torres Strait?—Alleyne & Macleay 1, as *Pseudolates cavifrons*. Norman and Fitzroy Rivers—Castelnau 10. Cleveland Bay—Klunzinger 49. Lillesmere Lagoon, Burdekin River—Macleay 58, as *L. darwiniensis*. North of Keppel Bay—Kent 47. Rockhampton; Cooktown—Kent 48.

Psammoperca waigiensis Cuvier & Valenciennes. Endeavour River—Klunzinger 49. Intertropical Queensland—Kent 47. Thursday Island—Weber 170. Hammond Island—Boulenger 4. Torres Strait—McCulloch 67.

Family OLIGORIDÆ.

Oligorus macquariensis Cuvier & Valenciennes. Near Tiaro, Mary River—Gunther 36. Mary River—Ogilby 102. Tully River—De Vis 157, as *Homodemus cavifrons*. Upper Brisbane River—O'Connor 94. Darling River System; Goondiwindi—Kent 47. Condamine River—Cockerell 15.

Family MORONIDÆ.

Percalates colonorum Gunther. Cleveland Bay—Klunzinger 49. Pine River—O'Connor 94, and Ogilby 126. Nerang River—Tosh 152.

Family EPINEPHELIDÆ.

Plectroplites ambiguus Richardson. Queensland, 27° 9' S. lat., 144° E. long.—Gunther 36. Condamine River—Cockerell 15. Upper Noosa River—Ogilby 125. Mary River—Ogilby 100, and Zeitz 174. Longreach, Thomson River—Johnston & Bancroft 41. Moreton Bay—Ogilby 121.

Macquaria australasica Cuvier & Valenciennes. Queensland—Kent 47, as *Murrayia guntheri*, *M. cyprinoides*, *M. bramoides*, and *Riverina fluviatilis*.

Acanthistius serratus Cuvier & Valenciennes. Cape Moreton—Ogilby 121. Point Lookout—Ogilby 112.

Centrogenys waigiensis Cuvier & Valenciennes. Mabuiag, Torres Strait; Port Molle—Boulenger 4. Cape York, "Challenger" Station 186—Gunther 36.

Plectropomus maculatus Bloch. Cape York—Gunther 29. Fair Cape—Alleyne & Macleay 1. Port Denison—Klunzinger 49.

Plectropomus variegatus Castelnau. Cape York—Castelnau 7.

Epinephelus sp.? Queensland—Kent 47, as *Serranus armatus*.

Epinephelus rubriniger Kent. Queensland—Kent 47. *Nom. nud.*

Epinephelus mysticalis De Vis. Queensland coast—De Vis 157, and Kent 47.

Epinephelus geometricus De Vis. Moreton Bay—De Vis 156.

Epinephelus subfasciatus De Vis. Cardwell—De Vis 157.

Epinephelus subniger Kent. Queensland—Kent 47. *Nom. nud.*

Epinephelus viridipinnis De Vis. Moreton Bay—De Vis 156.

Epinephelus megachir Richardson. Trinity Bay to Cape York—Alleyne & Macleay 1, as *Serranus gilberti*. Torres Strait—Macleay 55.

Epinephelus australis Castelnau. Cape York—Castelnau 7. Darnley Island—Alleyne & Macleay 1.

Epinephelus raymondi Ogilby. Cape Moreton—Ogilby 112.

Epinephelus flavocæruleus Lacepede. Brisbane—De Vis 153, as *Homalogrystes luctuosus*.

- Epinephelus flavocæruleus* var. *hœdtii* Bleeker. Moreton Bay—Ogilby 118.
- Epinephelus gilberti* Richardson. Torres Strait—Gunther 21. Cape Grenville—Alleyne & Macleay 1, as *Serranus carinatus*. Port Denison—Klunzinger 49. Cape York—Boulenger 4.
- Epinephelus fasciatus* Forskal. Near Darnley Island—Gunther 21, as *Serranus marginalis* Bloch. Queensland—Kent 47, as *S. tsirimenara*. Moreton Bay—Ogilby 121.
- Epinephelus merra* Bloch. Near Darnley Island—Gunther 21, as *Serranus hexagonatus* Forster. Palm Islands—Alleyne & Macleay 1. Moreton Bay—Ogilby 121.
- Epinephelus fuscoguttatus* Forster. Hope Islands; Port Denison; Cape York—Gunther 29. Cape Grenville—Alleyne & Macleay 1.
- Epinephelus tauvina* Forskal. Cape York—Castelnau 7, as *Serranus diacanthus* Cuv. & Val. Long Island, Torres Strait—Alleyne & Macleay, 1 as *S. crapao* Cuv. & Val. Cleveland Bay—Klunzinger 49, as *S. polydontophilus*. Mary River—Macleay 58, as *S. estuarius*. Queensland—Kent 47, as *S. suilexus*. Thursday Island—Weber 170, as *S. pantherinus*. Port Bowen—Boulenger 4. Moreton Bay—Ogilby 117. Noosa Lakes (fresh water)—Ogilby 121.
- Epinephelus cæruleopunctatus* Bloch. Queensland—McCulloch 80.
- Epinephelus* sp. ? Great Barrier Reef—Kent 47, as *Serranus outalibi*.
- Epinephelus undulatostratus* Peters. Moreton Bay—Ogilby 121.
- Epinephelus dæmelii* Gunther. Moreton Bay—Ogilby 121.
- Promicrops lanceolatus* Bloch. Cairns district—Macleay 60. Wide Bay district; Frazer's Island; Traveston; Mary River—Ramsay 134, as *Oligorus terræ-reginæ*. Moreton Bay—De Vis 153, as *O. goliath*. Brisbane—Macleay 55. Norman River; Mackay—Kent 47.
- Cephalopholis mars* De Vis. Cardwell—De Vis 157.
- Cephalopholis bœnack* Bloch. Queensland—Kent 47, as *Serranus stigmipoma*.
- Cephalopholis argus* Bloch. Queensland—Kent 47, as *Serranus thyrsites*.
- Cromileptes altivelis* Cuvier and Valenciennes. Darnley Island; Cairns Reef—Ogilby 120. Moreton Bay—Ogilby 125.

Family SERRANIDÆ.

- Gilbertia jamesoni* Ogilby. Woody Point and Sandgate, Moreton Bay—Ogilby 112. Port Curtis—McCulloch 66.
- Anthias pleurotænia* Bleeker. Great Barrier Reef—Ogilby 96.
- Callanthias allporti* Gunther. Off Cape Moreton—Ogilby 123.

Family RAINFORDIIDÆ.

- Rainfordia opercularis* McCulloch. Middle Island, Edgecombe Bay—McCulloch 86.

Family PLESIOPIDÆ.

- Paraplesiops jolliffei** Ogilby. Green Island, Moreton Bay—Ogilby 124.
Paraplesiops poweri Ogilby. Mud Island, Moreton Bay—Ogilby 112.
Pharopteryx nigricans Rüppell. Moreton Bay—Cockerell 15.
Pharopteryx melas Bleeker. Masthead Island—Ogilby 120.
Belonepterygion fasciolatum Ogilby. Moreton Bay—Ogilby 120. Masthead Island—McCulloch 61.

Family PSEUDOCHROMIDÆ.

- Pseudochromis novæ-hollandiæ** Steindachner. Port Denison—Steindachner 149. Queensland—Kent 47, as *Polyacanthus queenslandiæ*. Masthead Island—McCulloch 69.
Pseudochromis fuscus Muller & Troschel. Murray Island—De Vis 158, as *Onar nebulosum*. Moreton Bay—Ogilby 111, as *P. wildii*.
Dampieria longipinnis Ogilby. Bowen—Ogilby 111.

Family PRIACANTHIDÆ.

- Priacanthus macracanthus** Cuvier & Valenciennes. Nob or Knob Island—Castelnau 6, as *P. bleekeri*. Moreton Bay—Tosh 152.
Priacanthus junonis De Vis. Queensland coast—De Vis 157.

Family PEMPHERIDÆ.

- Liopempheris multiradiatus** Klunzinger. Queensland—Cockerell 13.
Leptobrama mulleri Steindachner. Queensland—Steindachner 148. Rockingham Bay—Macleay 55, as *Neopempheris ramsayi*. Keppel Bay; Moreton Bay—Ogilby 120.

Family DIPLOPRIONIDÆ.

- Diploprion bifasciatum** van Hasselt. Queensland—Kent 47.

Family LOBOTIDÆ.

- Lobotes surinamensis** Bloch. Endeavour River—Macleay 55, as *L. auctorum* Gunther var. *somnolentus*.

Family GLAUCOSOMIDÆ.

- Glaucosoma scapulare** Ramsay. Queensland—Kent 47. Moreton Bay—Ogilby 121.
Glaucosoma magnificum Ogilby. Thursday Island—Ogilby 122.

Family LUTIANIDÆ.

- Aprion virescens** Cuvier & Valenciennes. Gardner Bank, east of Frazer Island—McCulloch 70.
Aprion microlepis Bleeker. Moreton Bay—Ogilby 123.
Lutianus argentimaculatus Forskal. Cape York—Steindachner 147, as *Mesoprion samba* Cuv. & Val. Cleveland Bay—Klunzinger 49.

- Lutianus russelli* Bleeker. North Reef, Moreton Bay—McCulloch 70.
- Lutianus fulviflamma* Forskal. Port Denison—Klunzinger 49. North Reef—McCulloch 70.
- Lutianus sebæ* Cuvier & Valenciennes. Percy Islands—Alleyne & Macleay 1. North of Port Denison—Kent 47. Jew Shoal—Ogilby 121.
- Lutianus kasmira* Forskal. Queensland—Kent 47, as *Genyoroge bengalensis*. Moreton Bay and northward—Ogilby 121.
- Lutianus nigricauda* De Vis. Queensland coast—De Vis 157.
- Lutianus unicolor* Alleyne & Macleay. Percy Islands—Alleyne & Macleay 1.
- Lutianus regia* De Vis. Moreton Bay—De Vis 156.
- Lutianus amabilis* De Vis. Moreton Bay—De Vis 156. Nor-West Islet—Ogilby 121. North Reef—McCulloch 69.
- Lutianus notata* var. *sublineata* De Vis. Cardwell—De Vis 157. Queensland—Kent 47, misprinted *sexlineata*.
- Lutianus johnii* Bloch. Queensland—Castelnau 7. Cleveland Bay; Endeavour River—Klunzinger 49. Moreton Bay—Tosh 152.
- Lutianus gibbus* Forskal. Torres Group—Ogilby 111.
- Lutianus chrysotænia* Bleeker. Somerset, Cape York—Gunther 36. Thursday Island—Weber 170. North Reef; Masthead Island—McCulloch 70.
- Lutianus carponotatus* Richardson. Port Denison—Klunzinger 49.
- Lutianus vaigiensis* Quoy & Gaimard. Cape Grenville—Alleyne & Macleay 1.
- Lutianus erythropterus* Bloch. Off Pine Peak—McCulloch 70.
- Lutianus superbus* Castelnau. Moreton Bay—Castelnau 9.
- Lutianus obscurus* Macleay. Endeavour River—Macleay 55.
- Lutianus roseigaster* Macleay. Rockingham Bay—Macleay 55.
- Lutianus aurivittatus* Kent. Queensland—Kent 47. *Nom. nud.*
- Lutianus helenæ* Kent. Queensland—Kent 47. *Nom. nud.*
- Lutianus unicolor* Castelnau. Cape York—Castelnau 7.
- Lutianus nematophora* Bleeker. Off Hervey Bay—Ogilby 126.
- Lutianus vitta* Quoy & Gaimard. Moreton Bay and northward—Ogilby 121.

Family POMADASIDÆ.

- Cæsius cæruleus* Lacepede. Off Moreton Bay—Ogilby 120.
- Cæsius erythrogaster* Cuvier & Valenciennes. Fitzroy Island—Alleyne & Macleay 1.
- Cæsius chrysozona* Kuhl & van Hasselt. Moreton Bay—Ogilby 123.
- Plectorhynchus multivittatus* Macleay. Queensland—Kent 47. Darnley Island—Ogilby 122.
- Plectorhynchus reticulatus* Gunther. Cape York—Gunther 29. Moreton Bay—Ogilby 125.

- Plectorhynchus pictus** Thunberg. Queensland—Klunzinger 49, as *Diagramma punctatum*. Wide Bay—Macleay 58, as *D. labiosum*. Moreton Bay—Tosh 152. Off Double Island Point—McCulloch 72.
- Plectorhynchus amabile** Kent. Queensland—Kent 47. *Nom. nud.*
- Plectorhynchus amicum** Kent. Queensland—Kent 47. *Nom. nud.*
- Euelaticthys niger** Mertens. Queensland—Klunzinger 49, as *Diagramma affine* Gunther. Lower Burdekin River—Macleay 58. Moreton Bay—Ogilby 121.
- Euelaticthys crassilabris** Alleyne & Macleay. Queensland—Kent 47, as *Diagramma crassilabre*.
- Pomadasys hasta** Bloch. Cape York—Gunther 21. Cleveland Bay; Endeavour River—Klunzinger 49. North of Rockingham Bay—Kent 47. Moreton Bay—Cockerell 15.
- Pomadasys maculatum** Bloch. Torres Strait—Gunther 21.
- Pomadasys nigrorubrum** Kent. Queensland—Kent 47. *Nom. nud.*
- Pomadasys variegatum** Kent. Queensland—Kent 47. *Nom. nud.*
- Scolopsis plebæius** De Vis. Queensland—De Vis 157.
- Scolopsis margaritifer** Cuvier & Valenciennes. Cape Grenville—Alleyne & Macleay 1.
- Scolopsis longulus** Richardson. Torres Strait—Gunther 21.
- Scolopsis personatus** Bleeker. Thursday Island—Weber 170.
- Scolopsis specularis** De Vis. Queensland—De Vis 153.
- Scolopsis temporalis** Cuvier & Valenciennes. Palm Islands—McCulloch 80.

Family THERAPONIDÆ.

- Pelates quadrilineatus** Bloch. Queensland—Kent 47, as *Therapon cuvieri*. Moreton Bay—Ogilby 121. North-east of Bustard Head; Bowen—McCulloch 72.
- Pelates sexlineatus** Quoy & Gaimard. Off Boomerang Hill and Bustard Head—McCulloch 72.
- Therapon carbo** Kent. Queensland—Kent 47. *Nom. nud.*
- Therapon theraps** Cuvier & Valenciennes. Palm Islands to Flinders Island—Alleyne & Macleay 1. Rockingham Bay—Macleay 55. Off Gloucester Head—McCulloch 72. Burnett River; Yam Creek, Torres Strait—Ogilby & McCulloch 129.
- Therapon puta** Cuvier & Valenciennes. Torres Strait—Macleay 55, as *T. trivittatus*. Buchanan. Queensland Coast—De Vis 157, as *Autisthes argenteus*.
- Therapon servus** Bloch. Somerset, Cape York—Gunther 36. Cape York—Steindachner 147. Port Denison; Endeavour River—Klunzinger 49, as *T. jarbua*. Off Cape Bedford and Bowen—McCulloch 72. Mapoon, Gulf of Carpentaria; Darnley Island; Edgecumbe Bay; Hervey Bay; Great Sandy Strait; Moreton Bay; Brisbane River; Nerang Creek—Ogilby & McCulloch 129.

- Therapon percoides** Gunther. Queensland—Gunther 26. Queensland (not Port Jackson as recorded by Steindachner 147, as *Datnia fasciata*)—*vide* Gunther, Zool. Record iv, (1867) 1868, p. 159. Fitzroy River—Gunther 29, and Castelnau 7, as *T. terræ-reginæ*. Norman River—Castelnau 10, as *Therapon fasciatus* Castelnau (*nec* Steindachner). Palmer River; Rivers of Gulf of Carpentaria—Macleay 57. Lillesmere Lagoon, Upper Burdekin River—Macleay 58. Queensland—De Vis 157, as *T. spinosior*. Hodgkinson River—Lucas 52. Burnett River—Weber 170. Walsh River—Cockerell 15. Burnett, Walsh, Barron, and Flinders Rivers—Ogilby & McCulloch 129.
- Therapon caudavittatus** Richardson. Somerset, Cape York—Gunther 36. Long Island, Torres Strait—Alleyne & Macleay 1. Norman River—Castelnau 10. Port Denison—Klunzinger 49. Murray Island—McCulloch 64. Darnley Island; Moreton Bay—Ogilby & McCulloch 129.
- Therapon unicolor** Gunther. Mosquito Creek, Darling Downs—Gunther 21. Near Tiaro, Mary River; Queensland, 27° 9' S. lat., 144° E. long.—Gunther 36. Cape York—Steindachner 147, as *Datnia brevispinis*. Fitzroy River, Rockhampton—Gunther 29. Endeavour River—Macleay 55, as *T. truttaceus*. Palmer River—Macleay 57. Mary River—Macleay 58. Lillesmere Lagoon, Burdekin River—Macleay 58, as *T. longulus*. Lake Elphinstone, between Nebo and Suttor Rivers—De Vis 156, as *T. elphinstonensis*. Upper Condamine River—Ogilby 109. Eidsvold—Ogilby & McCulloch 129.
- Therapon bidyana** Mitchell. Queensland—Kent 47, as *T. richardsoni* Castelnau. Moreton Bay—Ogilby 121.
- Therapon argenteus** Cuvier & Valenciennes. Queensland—De Vis 157, as *T. acutirostris*.
- Therapon carbo** Ogilby & McCulloch. Gregory River—Ogilby & McCulloch 129. Longreach, Thomson River—Johnston & Bancroft 41 and 42.
- Therapon fuliginosus** Macleay. Upper Burdekin River—Macleay 58. Tully and Murray Rivers—De Vis 157, as *Hephæstes tulliensis*.
- Therapon trimaculatus** Macleay. ? York Peninsula—Ogilby & McCulloch 129.
- Therapon hillii** Castelnau. Taroom, Upper Dawson River—Castelnau 9. Longreach, Thomson River—Johnston & Bancroft 41 and 42. Dawson River; Norman River—Ogilby & McCulloch 129.
- Therapon parviceps** Macleay. Upper Burdekin River—Macleay 58.
- Therapon bancrofti** Ogilby & McCulloch. Eureka Creek, Stannary Hills, North Queensland—Ogilby & McCulloch 129.
- Therapon ater** Kent. Queensland—Kent 47. *Nom. nud.*
- Therapon cavifrons** Kent. Queensland—Kent 47. *Nom. nud.*
- Therapon maculosus** Kent. Queensland—Kent 47. *Nom. nud.*
- Helotes sexlineatus** Quoy & Gaimard. Thursday Island—Weber 170.

Family LETHRINIDÆ.

- Lethrinus glyphodon** Gunther. Moreton Bay—Ogilby 121, and Cockerell 15.
- Lethrinus imperialis** De Vis. Moreton Bay—De Vis 156.
- Lethrinus nematacanthus** Bleeker. Cape Grenville; Pipon Islands—Alleyne & Macleay 1. Percy Islands—Macleay 55. Moreton Bay—Jordan & Thompson 44, and Tosh 152. Hervey Bay—Ogilby 121.
- Lethrinus chrysostomus** Richardson. Cape York—Gunther 21. Percy Islands—Alleyne & Macleay 1. Lady Elliott Island—Ogilby 121.
- Lethrinus reticulatus** Cuvier & Valenciennes. Endeavour River; Port Denison—Klunzinger 49.
- Lethrinus nebulosus** Forskal. Somerset, Cape York—Gunther 36. Moreton Bay—Ogilby 123.
- Lethrinus opercularis** Cuvier & Valenciennes. Thursday Island—Weber 170.
- Lethrinus hæmatopterus** Temminck & Schlegel. Cape York—Gunther 2, as *L. richardsonii*. Endeavour River—Klunzinger 49.
- Lethrinus laticaudus** Alleyne & Macleay. Percy Islands—Alleyne & Macleay 1. Cape York; Murray Island—Ogilby 118.
- Lethrinus harak** Forskal. Darnley Island—Ogilby 120.
- Lethrinus rostratus** Cuvier & Valenciennes. Wide Bay district—Kent 47.
- Lethrinus flavescens** Kent (= *L. flavescens* Cuv. & Val.?). Queensland—Kent 47.
- Lethrinus lacrymans** Kent. Queensland—Kent 47. *Nom. nud.*
- Lethrinus margaritifer** Kent. Queensland—Kent 47. *Nom. nud.*
- Lethrinus regius** Kent. Queensland—Kent 47. *Nom. nud.*
- Lethrinus viridis** Kent. Queensland—Kent 47. *Nom. nud.*
- Lethrinus ornatus** De Vis (*nec* Bleeker, *nec* Cuvier & Valenciennes). Wide Bay—De Vis 157.
- Lethrinus mahsenoides** Bleeker. Queensland—Kent 47.
- Pentapus setosus** Cuvier & Valenciennes. Moreton Island—Gunther 21, as *P. paradiseus*. Queensland—Castelnau 7, as *Dentex filifer*. Cape Sidmouth—Alleyne & Macleay 1. Torres Strait—Kent 47. Moreton Bay—Tosh 152. Rock Cod Shoal; Great Sandy Strait; Moreton Bay; Dunk Island—McCulloch 68.

Family NEOLETHRINIDÆ.

- Neolethrinus similis** Castelnau. Cape York—Castelnau 7.

Family SPARIDÆ.

- Pagrosomus auratus** Forster. Moreton Island—Gunther 21, as *Pagrus unicolor*. Brisbane—Ogilby 100. Port Denison; Lady Elliott Island—Kent 47. Mackay—Kent 48. Caloundra—Jordan & Thompson 44. Perforated Rock; E.N.E. from Currumbin; Point Danger—Ogilby 121.
- Pagrosomus major** Schlegel. Port Denison; Thursday Island—Kent 47.

- Argyrops spinifer** Forskal. Port Denison—Kent 47. Peel Island, Moreton Bay—McCulloch 83. Bustard Head Reef—Ogilby 121.
- Sparus sarba** Forskal. South Queensland—Kent 47. Moreton Bay—Jordan & Thompson 44. Off Double Island Point—Ogilby 121.
- Sparus australis** Gunther. Queensland—Klunzinger 49. Near Tiaro, Mary River—Gunther 36. Moreton Bay—Tosh 152.
- Sparus berda** Forskal. Lower Burdekin River—Macleay 58 as *Chrysophrys hasta*. Inter-tropical Queensland—Kent 47. Caloundra—Ogilby 125.

Family DENTICIDÆ.

- Dentex spariformis** Ogilby. Off Cape Moreton—Ogilby 114.
- Gymnocranius audleyi** Ogilby. Off Moreton Bay; off Noosa Head; Hervey Bay; Bunker Group; Rock Cod Reef; Nor-West Islet—Ogilby 123. Moreton Bay—Cockerell 15, as *G. bitorquatus* Ogilby. Off Bustard Head—McCulloch 72.
- Nemipterus sp.** Ogilby. Queensland—Kent 47, as *Genyoroge rubicauda* De Vis. Somerset—Ogilby 125.
- Nemipterus theodorei** Ogilby. Caloundra Banks—Ogilby 124.
- Nemipterus tæniopterus** Cuvier & Valenciennes. Cape Sidmouth—Alleyne & Macleay 1. Off Bustard Head; off Jenny Lind Buoy; off Double Island Point; Moreton Bay—Ogilby 121.
- Nemipterus upeneoides** Bleeker. Queensland—Klunzinger 49.
- Nemipterus aurifilum** Ogilby. Off Cape Moreton; Cartwright Point; Low Bluff; Double Island Point; North Reef; Cape Capricorn; Hummocky Island; Pine Peak; Cape Gloucester; Bowen Light—Ogilby 114.
- Nemipterus robustus** Ogilby. Damlay (? = Darnley) Island—Gunther 21, as *Synagris furcosus*. Palm Islands to Cape Grenville—Alleyne & Macleay 1.

Family GIRELLIDÆ.

- Girella tricuspidata** Quoy & Gaimard. Murray Island; Queensland—Kent 47, as *G. simplex* Richardson. Moreton Bay—De Vis 155, as *G. carbonaria* and *G. mentalis*. Moreton Bay—Tosh 152.

Family KYPHOSIDÆ.

- Kyphosus cinerascens** Forskal. Darnley Island—Alleyne & Macleay 1, as *Scorpius vinosa*, and Ogilby 120. St. Crispin Reef, off Port Douglas—McCulloch 78.
- Kyphosus sydneyanus** Gunther. Moreton Bay—Ogilby 121.
- Kyphosus gibsoni** Ogilby. Moreton Bay—Ogilby 118.

Family HISTIOPTERIDÆ.

- Zanclistius elevatus** Ramsay & Ogilby. Southern Queensland—Ogilby 121.

Family ENOPLOSIDÆ.

- Enoplosus armatus** Shaw. Cairns—De Vis 160, as *E. serotinus*. Moreton Bay—Ogilby 141.

Family GERRIDÆ.

- Gerres* ? *cheverti* Alleyne & Macleay. Cape Grenville—Alleyne & Macleay 1.
Gerres ? *longicaudus* Alleyne & Macleay. Cape Grenville—Alleyne & Macleay 1.
Gerres ? *carinatus* Alleyne & Macleay. Darnley Island—Alleyne & Macleay 1.
Gerres ? *profundus* Macleay. Cardwell; Inter-tropical Queensland coast—Kent 47.
Gerres ? *oyena* Forskal. Queensland coast—Castelnau 7. Queensland—Kent 47, as *G. ovata*.
Gerres ? *splendens* De Vis. Cardwell—De Vis 157.
Gerres ? *philippinus* Gunther. Cape York—Gunther 29.
Xystæma ovatum Gunther. Queensland—Kent 47. Moreton Bay—Ogilby 100.
Xystæma argyreum Forster. Queensland—Kent 47.
Xystæma abbreviatum Bleeker. Cape Grenville—Alleyne & Macleay 1.
Xystæma punctatum Cuvier & Valenciennes. Cape York—Gunther 21, as *Gerres filamentosus*, and Steindachner 147. Moreton Bay—Kent 47. Queensland—Klunzinger 49. Endeavour River—Macleay 55. Lower Burdekin River—Macleay 58.
Xystæma darnleyense Ogilby. Darnley Island—Ogilby 120.
Gerreomorpha rostrata Alleyne & Macleay. Torres Strait—Alleyne & Macleay 1.

Family MULLIDÆ.

- Mulloidides auriflamma* Forskal. Queensland—Ogilby 112. Hervey Bay—Ogilby 123.
Mulloidides armatus De Vis. Queensland—De Vis 157.
Pseudupeneus barberinus Lacepede. Queensland—Ogilby 112.
Pseudupeneus jeffi Ogilby. Brisbane River—Ogilby 112.
Pseudupeneus signatus Gunther. Southport, Moreton Bay—Tosh 152. Off Double Island Point—Ogilby 121.
Pseudupeneus rubriniger De Vis. De Vis, 157, gives no locality, but his type in the Queensland Museum is labelled 'Tully River'.
Upeneus vittatus Forskal. Endeavour River—Macleay 55.
Upeneus tragula Richardson. Palm Islands—Macleay 55. Moreton Bay—Ogilby 121.
Upeneus roseus Castelnau. Cape York—Castelnau 7.
Upeneus malabaricus Cuvier & Valenciennes. Cape Grenville—Alleyne & Macleay 1. Darnley Island—Cockerell 14.
Upeneus filifer Ogilby. Off Cape Gloucester—Ogilby 114.
Upeneichthys porosus Cuvier & Valenciennes. Queensland—Ogilby 112. Off Cape Moreton; off Double Island Point—Ogilby 121.

Family SCIÆNIDÆ.

- Sciæna hololepidota antarctica* Castelnau. Brisbane—Castelnau 9, as *Corvina aquila*? Brisbane River—De Vis 157, as *Corvina axillaris*. Moreton Bay—Ogilby 125.

Sciæna soldado Lacepede. Cleveland Bay; Townsville—Steindachner 150, as *Sciæna*, *Corvina*, *muelleri*. Queensland—Klunzinger 49, as *S. miles*. Lower Burdekin River—Macleay 58, as *C. argentea*. Dunk Island; Moreton Bay—Ogilby 125.

Sciæna australis Gunther. Tiaro, Mary River—Gunther 36. Burdekin and Mary Rivers—Macleay 59. Brisbane River—De Vis 157, as *C. canina*. Brisbane River—Johnston and Bancroft 41. Moreton Bay—Ogilby 125.

Sciæna albida Cuvier & Valenciennes. Norman River—Castelnau 10.

Sciæna novæ-hollandiæ Steindachner. Brisbane River—De Vis 157, as *Corvina comes*. Logan River, Brisbane River—Ogilby 112, as *Pseudomycteris maccullochi*, and Ogilby 125.

Umbrina mulleri Klunzinger. Queensland—Klunzinger 49.

Family OTOLITHIDÆ.

Otolithus argenteus Bleeker. Edgecumbe Bay—Ogilby 125.

Family SILLAGINIDÆ.

Sillago maculata Quoy & Gaimard. No. 4 Island, Howick Group—Alleyne & Macleay 1. Darnley Island?—Alleyne and Macleay 1, as *S. gracilis*. Endeavour River—Klunzinger 49. Moreton Bay—Kent 47, and Tosh 152.

Sillago ciliata Cuvier & Valenciennes. Somerset, Cape York—Gunther 36. Queensland—Castelnau 7. Percy Islands—Alleyne & Macleay 1. Moreton Bay—Castelnau 9, as *S. terræ-reginæ*. Brisbane—Castelnau 11, as *S. bassensis*, Port Denison; Cleveland Bay—Klunzinger 49. Moreton Bay—Kent 47, as *S. bassensis*, and Tosh 151.

Sillago sihama Forskal. Queensland—Macleay 59. Thursday Island—Weber 170.

Sillago auricomis Ogilby. South Hill; Cartwright Point; Low Bluff; Double Island Point; Hervey Bay; Bustard Bay—Ogilby 114. Lady Elliot Island and southwards—Ogilby 121.

Family CEPOLIDÆ.

Cepola australis Ogilby. Moreton Bay—Marshall 60A.

Suborder CIRRHITOIDEI.

Family CIRRHITIDÆ.

Dactylophora nigricans Richardson. Queensland—Cockerell 13. This record is almost certainly incorrect.

Cirrhitichthys armatus Castelnau. Nob or Knob Island—Castelnau 6.

Cirrhitichthys polyactis Bleeker. Near Capricorn Group—McCulloch 83.

Family CHIRONEMIDÆ.

Chironemus marmoratus Gunther. Darnley Island—Gunther 22.

Family CHEILODACTYLIDÆ.

Cheilodactylus fuscus Castelnau. Moreton Bay—Ogilby 112.

Cheilodactylus, Goniistius, gibbosus Richardson. Moreton Bay—Kent 48, and Ogilby 123, as *G. vestitus* Castelnau.

Series GADOPSIFORMES.

Family GADOPSIDÆ.

Gadopsis marmoratus Richardson. Warwick district and Killarney, Condamine River—Ogilby 120.

Series CAPRIFORMES.

Family ANTIGONIIDÆ.

Antigonia rubicunda Ogilby. Off North Reef—Ogilby 114.

Series EPHIPPIFORMES.

Family SCORPIDIDÆ.

Scorpius lineolatus Kner. Queensland—Kent 47, as *S. æquipinnis* Richardson. Off Moreton Bay—Ogilby 112.

Atypichthys strigatus Gunther. Off Moreton Bay—Ogilby 112. Off Cape Moreton—McCulloch 72.

Family MONODACTYLIDÆ.

Monodactylus argenteus Linnæus. Brisbane River—Castelnau 9. Endeavour River; Port Denison—Klunzinger 49. Moreton Bay—Kent 47. Off Bowen—McCulloch 72.

Family PLATACIDÆ.

Platax teira Forskal. Cairns—Kent 47. Queensland—Cockerell 14. Moreton Bay—Ogilby 121.

Platax orbicularis Forskal. Cardwell—Castelnau 9, as *P. vespertilio* Bloch. Bowen to Thursday Island—Kent 47.

Platax novemaculeatus McCulloch. Off Gloucester Head; Bowen—McCulloch 72.

Family DREPANIDÆ.

Drepane punctata Gmelin. Endeavour Strait; Cape York—Cuvier & Valenciennes 17. Cape York—Alleyne & Macleay 1. Endeavour River; Cleveland Bay—Klunzinger 49. Off Bowen—McCulloch 72. Edgecumbe Bay—Ogilby 121.

Suborder SQUAMIPENNES.

Series TOXOTIFORMES.

Family TOXOTIDÆ.

Toxotes chatareus H. Buchanan. Cleveland Bay—Klunzinger 49. Norman River—Cockerell 15.

Toxotes carpentariensis Castelnau. Norman River—Castelnau 10.

Toxotes jaculator Cuvier & Valenciennes. Endeavour River—Macleay 55. Norman River—Kent 47.

Series CHÆTODONTIFORMES. Family SCATOPHAGIDÆ.

- Scatophagus multifasciatus* Richardson. Cape York—Gunther 22, and Steindachner 147, and Alleyne & Macleay 1. Norman River—Castelnau 10. Port Denison; Cleveland Bay—Klunzinger 49. Lower Burdekin River—Macleay 58.
- Scatophagus ætate-varians* De Vis. Queensland coast—De Vis 157, and Kent 47.
- Scatophagus argus* Linnæus. Cape York—Gunther 29. Brisbane River; Norman River; Cardwell—Castelnau 9.
- Scatophagus quadratus* De Vis. Queensland coast—De Vis 157.
- Scatophagus brunneus* Kent. Queensland—Kent 47. *Nom. nud.*
- Scatophagus chameleon* Kent. Queensland—Kent 47. *Nom. nud.*
- Scatophagus semistrigatus* Kent. Queensland—Kent 47. *Nom. nud.*

Family CHÆTODONTIDÆ.

- Chætodon aureofasciatus* Macleay. Holbourne Island—McCulloch 85.
- Chætodon setifer* Bloch. Cape York—Castelnau 7. Port Denison—McCulloch 85.
- Chætodon trifasciatus* Park. Cape York—Castelnau 7, as *C. vittatus*.
- Chætodon citrinellus* Broussonet. Queensland—De Vis 157, as *C. nigripes*.
- Chætodon lunula* Lacepede. Prince of Wales Island—Cuvier & Valenciennes 17. Two Isles, off Cape Bedford—McCulloch 85.
- Chætodon rainfordi* McCulloch. Holbourne Island—McCulloch 85.
- Chætodon falcula* Bloch. Queensland—De Vis 157, as *C. aurora*.
- Chætodon ephippium* Cuvier & Valenciennes. Cardwell—De Vis 157. Queensland—Cockerell 14.
- Chætodon pelewensis* Kner. Queensland—De Vis 157, as *C. germanus*.
- Chætodon flavirostris* Gunther. Queensland—Cockerell 14.
- Chætodon octofasciatus* Bloch. Queensland—Cockerell 14.
- Chætodon kleinii* Bloch. Murray Island—Ogilby *in lit.* Included in a key to Australian species of *Chætodon* by McCulloch 85.
- Chætodon vagabundus* Linnæus. Murray Island; Cairns Reef, off Cooktown—McCulloch 85.
- Chætodon lineolatus* Cuvier & Valenciennes. Whitsunday Islands—McCulloch 85.
- Chætodon melanotus* Bloch & Schneider. Murray Island—McCulloch 85.
- Megaprotodon plebeius* Gmelin. Sue Island, Torres Strait—Macleay 55.
- Megaprotodon maculiceps* Ogilby. Moreton Bay—Ogilby 115.
- Coradion altivelis* McCulloch. Wide Bay—McCulloch 72.
- Parachætodon ocellatus* Cuvier & Valenciennes. Moreton Bay—De Vis 157, as *Chætodon townleyi*, and Ogilby 112. Off Bustard Head; Bowen; Port Curtis—McCulloch 72.
- Microcanthus strigatus* Cuvier & Valenciennes. Wide Bay—McCulloch 72.

- Chelmon rostratus** Linnæus. Cape York—Castelnau 7. Queensland—Cockerell 14.
Chelmon mulleri Klunzinger. Off Bowen—McCulloch 72.
Forcipiger longirostris Broussonet. Cape York—Castelnau 7.
Chelmonops truncatus Kner. Off Double Island Point—Ogilby 123, and McCulloch 72.
Heniochus macrolepidotus Linnæus. Queensland—Ogilby 121.
Heniochus varius Cuvier & Valenciennes. Cape York—Castelnau 7, as *Taurichthys bleekeri*.
Heniochus chrysostomus Cuvier & Valenciennes. Queensland—Cockerell 14.
Holacanthus flavissimus Cuvier & Valenciennes. Queensland coast—De Vis 157, as *H. sphynx*.
Holacanthus bicolor Bloch. Queensland coast—De Vis 157.
Holacanthus sexstriatus Cuvier & Valenciennes. Cape Grenville—Alleyne & Macleay 1. Darnley Island—Ogilby 122.
Holacanthus imperator Bloch. Raine Island—Ogilby 122.
Holacanthus semicirculatus Cuvier & Valenciennes. Queensland—De Vis 157, and Ogilby 122.
Holacanthus nox Bleeker. Barrier Reef—Ogilby 123.
Holacanthus, Chætodontoplus, duboulayi Gunther. Rat Island, Port Curtis ; Cape York—McCulloch 66. Hervey Bay—Ogilby 123. Moreton Bay ; Port Curtis ; Rockingham Bay—Ogilby 122.
Holacanthus, Chætodontoplus, personifer McCulloch. Wide Bay—McCulloch 72. Moreton Bay—Ogilby 122.
Holacanthus, Chætodontoplus, conspicillatus Waite. Capricorn Group—McCulloch 83.

Series ZANCLIFORMES.

Family ZANCLIDÆ.

- Zanclus canescens** Linnæus. Capricorn Group—McCulloch 83.

Series ACANTHURIFORMES.

Family ACANTHURIDÆ.

- Teuthis triostegus** Linnæus. Queensland—Ogilby 123.
Teuthis nigrofuscus Forskal. Dunk Island—Ogilby 112.
Teuthis matoides Cuvier & Valenciennes. Cape York—Castelnau 7, as *Acanthurus annularis*.
Teuthis grammoptilus Richardson. Masthead Island—McCulloch 76.
Teuthis formosus Castelnau. Nob or Knob Island—Castelnau 6.
Teuthis olivaceus Bloch & Schneider. Capricorn Group—McCulloch 83.
Zebrasoma hypselopteron Bleeker. Queensland coast—De Vis 157, as *Naseus strigatus*. Raine Island—Ogilby 122.
Acanthurus unicornis Forskal. Bramble Cay—Alleyne & Macleay 1. Dunk Island ; Raine Island ; Cape Moreton—Ogilby 122.
Acanthurus annulatus Quoy & Gaimard. Cape Grenville—Alleyne & Macleay 1.
Acanthurus tuberosus Lacepede. Raine Island—Ogilby 122.

Suborder AMPHACANTHI.

Family SIGANIDÆ.

- Siganus aurolineatus** Ogilby. Somerset—Ogilby 118.
Siganus javus Linnæus. Cape York—Castelnau 7, as *Amphacanthus javanus* Linnæus.
Siganus vermiculatus Cuvier & Valenciennes. Trinity Bay—Alleyne & Macleay 1.
Siganus notostictus Richardson. Darnley Island—Alleyne & Macleay 1.
Siganus fuscescens Houttuyn. Queensland—Klunzinger 49.
Siganus nebulosus Quoy & Gainard. Cape York—Castelnau 7.
Siganus doliatus Cuvier. Fair Cape—Alleyne & Macleay 1.
Siganus flavus De Vis. De Vis, 157, gives no locality. Queensland—Kent 47.
Siganus mixtus Kent. Queensland—Kent 47. *Nom. nud.*
Siganus teuthopsis De Vis. Queensland coast—De Vis 157.
Siganus vitticaudus Kent. Queensland—Kent 47. *Nom. nud.*
Siganus gibbosus De Vis. Queensland coast—De Vis 157.
Siganus consobrinus Ogilby. Cape Grenville—Alleyne & Macleay 1, as *Teuthis albopunctata* Schlegel. Moreton Bay—Ogilby 118.

Order HETEROSOMATA.

Family PSETTODIDÆ.

- Psettodes erumei** Bloch. Endeavour River—Kent 47.

Family BOTHIDÆ.

- Platophrys pennata** Ogilby. Queensland?—Ogilby 120.
Platophrys pantherinus Rüppell. Darnley Island—Ogilby 120. Murray Island; near Cape Flattery—McCulloch 83.
Platophrys polyophthalmus Bleeker. Between Cairns and Rockhampton—McCulloch 83.
(Arnoglossus) bleekeri Macleay. Endeavour River—Macleay 56.
(Arnoglossus) fisoni Ogilby. Caloundra Head; Moreton Bay—Ogilby 106.
Lophonectes gallus Gunther. South Hill; Moreton Bay—Ogilby 118.

Family PARALICHTHYIDÆ.

- Neorhombus ocellatus** Kent. Queensland—Kent 47. *Nom. nud.*
Pseudorhombus multimaculatus Gunther. Cape York—Steindachner 147. Moreton Bay—Ogilby 112, as *P. novæ-cambiæ*.
Pseudorhombus arsius H. Buchanan. Endeavour River—Klunzinger 49, as *P. russellii* Gray. Moreton Bay—De Vis 153, as *Pleuronectes mortoniensis*. Queensland—Ogilby 118, as *P. polyspilos* Bleeker.
Pseudorhombus tenuirastrum Waite. Queensland—Ogilby 118.
Pseudorhombus anomalus Ogilby. Moreton Bay—Ogilby 118.

- Pseudorhombus cartwrighti* Ogilby. Moreton Bay—Ogilby 118.
Pseudorhombus elevatus Ogilby. Bulwer, Moreton Bay—Ogilby 118.
Pseudorhombus polyspilus Bleeker. Queensland—Klunzinger 49.
Pseudorhombus sp. Ogilby. Queensland—Kent 47, as *P. multimaculatus* (vide Ogilby 100).
Pseudorhombus sp. Ogilby. Off Pine Peak ; off Cape Gloucester—Ogilby 118.

Family SAMARIDÆ.

- Samaris cacatuæ* Ogilby. Off Cape Gloucester—Ogilby 114, and McCulloch & Whitley 91.

Family RHOMBOSOLEIDÆ.

- Ammotretis ovalis* Kent. Queensland—Kent 47. *Nom. nud.*

Family SOLEIDÆ.

- Soleichthys heterorhinos* Bleeker. Thursday Island—Kent 47.
Aseraggodes macleayana Ramsay. Brisbane River ; Caloundra—Ogilby 112.
 Moreton Bay—Ogilby 123.
Pardachirus pavoninus Lacépède. Cape York ; Cape Grenville—Alleyne & Macleay 1. Raine Island—Ogilby 123.
Pardachirus hedleyi Ogilby. Moreton Bay—Ogilby 123.

Family SYNAPTURIDÆ.

- Synaptura salinarum* Ogilby. Kimberley—Ogilby 115.
Synaptura breviceps Ogilby. Rockhampton—Ogilby 115.
Synaptura craticulus McCulloch. Near Bowen—McCulloch 73.
Synaptura mulleri Steindachner. Cleveland Bay, Townsville—Steindachner 150.
Synaptura nigra Macleay. Moreton Bay—De Vis 154, as *S. cinereus*.
Synaptura selheimi Macleay. Palmer River—Macleay 57.
Synaptura fitzroyensis De Vis. Fitzroy River—De Vis 153.
Synaptura armata Kent. Queensland—Kent 47. *Nom. nud.*
Synaptura inermis Kent. Queensland—Kent 47. *Nom. nud.*
Æsopia quagga Kaup. Brisbane River—Castelnau 11.

Family CYNOGLOSSIDÆ.

- Paraplagusia brevirostris* Kent. Queensland—Kent 47. *Nom. nud.*
Paraplagusia unicolor Macleay. Queensland—Ogilby 100, and Kent 47.
Rhinoplagusia japonica Schlegel. Endeavour River—Macleay 56, as *Plagusia guttata*. Moreton Bay—De Vis 155, as *P. notata*. Endeavour River ; Finches Bay, Cooktown—McCulloch and Whitley 91.
Cynoglossus quadrilineatus Bleeker. Cleveland Bay—Klunzinger 49.

Order CATAPHRACTI.

Series SCORPÆNIFORMES.

Family SCORPÆNIDÆ.

- Scorpæna cardinalis* Richardson. Queensland—Kent 47. Moreton Bay—Ogilby 121.
- Scorpæna cruenta* Richardson. Queensland—Kent 47.
- Scorpæna grandisquamis* Ogilby. North-west Island—Ogilby 114.
- Scorpæna haplodactyla* Bleeker. Cape York—Steindachner 147.
- Scorpæna byncensis* Richardson. Darnley Island—Alleyne & Macleay 1. Port Denison—Klunzinger 49. Dunk Island; Green Island; Murray Island; Mapoon—McCulloch 64.
- Scorpæna bellicosa* Castelnau. Queensland—Castelnau 7.
- Scorpænopsis macrochir* Ogilby. Brisbane River—Ogilby 115.
- Scorpænopsis palmeri* Ogilby. Moreton Bay—Ogilby 115.
- Sebastes* sp. juv. Weber. Thursday Island—Weber 170.
- Neosebastes panda* Richardson. Queensland—Kent 47.
- Neosebastes incisipinnis* Ogilby. Cape Moreton; Double Island; Fraser Island—Ogilby 114. Off Double Island Point and Lighthouse; Wide Bay—McCulloch 70.
- Scorpænodes guamensis* Quoy & Gaimard. Endeavour River—Macleay 55, as *Centropogon echinatus*. Murray Island—McCulloch 66. Endeavour River—Ogilby 108.
- Notesthes robusta* Gunther. Tiaro, Mary River—Gunther 36. Brisbane River—Castelnau 9. Mary River—Macleay 58. Queensland coast—De Vis 157, as *Centropogon nitens*.
- Centropogon australis* Shaw. Dunwich, Moreton Bay—De Vis 157, as *Tetraroge hamiltoni*. Queensland coast—De Vis 157, as *T. bellona*.
- Centropogon marmoratus* Gunther. Moreton Bay—Gunther 29.
- Hypodytes vespa* Ogilby. Cape Capricorn—Ogilby 114. Platypus Bay; Rat Island, Port Curtis—McCulloch 81.
- Apistus carinatus* Bloch & Schneider. Low Bluff; Double Island Point and Lighthouse; Boomerang Hill; Hervey Bay; Hummocky Island; Pine Peak; Cape Gloucester—Ogilby 114, as *A. macrolepidotus*. East of Fraser Island—McCulloch 70.
- Apistus balnearum* Ogilby. Metropolitan Baths, Brisbane—Ogilby 115.
- Apistops caloundra* De Vis. Caloundra?—De Vis 160.
- Liocranium præpositum* Ogilby. Queensland coast—Ogilby 108. Great Sandy Strait; Port Curtis; Moreton Bay—McCulloch 72.
- Liocranium scorpio* Ogilby. Cape Capricorn; North-east Island; Hummocky Island—Ogilby 114. Bowen; Capricorn Group—McCulloch 81.

- Tetraroge darnleyensis* Alleyne & Macleay. Darnley Island—Alleyne & Macleay 1.
Pterois volitans Linnæus. Cape Upstart—Gunther 22. Torres Strait; Endeavour River—Macleay 55. Moreton Bay—Ogilby 121.
Pterois lunulata Schlegel. Mooloolah—Ogilby 112.
Pterois kodipungi Bleeker. Queensland—Ogilby 125.
Pterois miles Bennett. Queensland—Ogilby 125.
Pterois zebra Cuvier & Valenciennes. Queensland—Ogilby 125.

Family APLOACTIDÆ.

- Paraploactis trachyderma* Bleeker. Moreton Bay—De Vis 157, as *Aploactis lichen*.

Family SYNANCEJIDÆ.

- Synanceja horrida* Linnæus. Cooktown—Kent 47.
Synanceja verrucosa Bloch & Schneider. Murray Island—McCulloch 62.
Minous versicolor Ogilby. Cape Gloucester; Platypus Bay; Low Bluff—Ogilby 114.
Inimicus barbatus De Vis. Cape York—De Vis 157. Hummocky Island to Moreton Bay—McCulloch 72.
Erosa erosa Langsdorff. Off Double Island Point—Ogilby 114, as *E. iridea*. Capricorn Group—McCulloch 81.
Erosa fratum Ogilby. Moreton Bay—Ogilby 115.

Family PATÆCIDÆ.

- Patæcus fronto* Richardson. Moreton Bay—De Vis 161.

Series PLATYCEPHALIFORMES.

Family PLATYCEPHALIDÆ.

- Platycephalus indicus* Linnæus. Mary River; Somerset—Gunther 36. Cape Grenville; Cape York—Alleyne & Macleay 1, as *P. insidiator*. Cleveland Bay—Klunzinger 49.
Platycephalus fuscus Cuvier & Valenciennes. Maryborough—Ogilby 100. Moreton Bay—Ogilby 121.
Platycephalus bassensis Cuvier & Valenciennes. Queensland—Ogilby 121.
Platycephalus staigeri Castelnau. Queensland—Castelnau 7.
Platycephalus arenarius Ramsay & Ogilby. Off Double Island Point; Boomerang Hill; Fraser Island; Wide Bay; Platypus Bay—McCulloch 70.
Platycephalus mortoni Macleay. Lower Burdekin River—Macleay 58.
Platycephalus marmoratus Stead. Outer Caloundra Bank—Ogilby 125.
Insidiator bosschei Bleeker. Palm Islands; Cape Grenville—McCulloch 68.
Insidiator malayanus Bleeker. Murray Island—McCulloch 68.
Insidiator macracanthus Bleeker. Off Bowen—McCulloch 68.
Insidiator tuberculatus Cuvier & Valenciennes. Platypus Bay—McCulloch 68.

- Insidiator jugosus** McCulloch. Near Bowen ; Hummocky Island ; off Cape Capricorn ; Hervey Bay ; Wide Bay—McCulloch 68.
- Insidiator harrisi** McCulloch. Off Pine Peak ; Bowen ; Moreton Bay—McCulloch 68.
- Insidiator nematophthalmus** Gunther. Queensland—Klunzinger 49. North Queensland—Kent 47, as *Platycephalus staigeri*. Off Hervey Bay ; Moreton Bay ; Murray Island—McCulloch 68.
- Insidiator parilis** McCulloch. Queensland—Kent 47, as *Platycephalus japonicus*. Mapoon—McCulloch 68.
- Insidiator isacanthus** Cuvier & Valenciennes. Palm Islands ; Cape Grenville—Alleyne & Macleay 1.
- Elates thompsoni** Jordan & Seale. Pine Peak ; Cape Gloucester—Ogilby 114, as *Hyalorhynchus pellucidus*. Off Bowen—McCulloch 68.

Family HOPLICHTHYIDÆ.

- Hoplichthys ogilbyi** McCulloch. Off Cape Moreton—McCulloch 68.

Series TRIGLIFORMES.

Family TRIGLIDÆ.

- Chelidonichthys kumu** Lesson & Garnot. Moreton Bay—Ogilby 121.
- Lepidotrigla alata** Houttuyn. Queensland—Kent 47, as *Trigla polyommata* Richardson and as *L. vergeri*. Queensland—Ogilby 100, as *Chelidonichthys kumu* L. & G.
- Lepidotrigla grandis** Ogilby. Off Cape Moreton—Ogilby 114.
- Lepidotrigla argus** Ogilby. Between South Hill and Cape Gloucester—Ogilby 114. Moreton Island ; Cape Moreton ; North Reef ; Low Bluff ; Cartwright Point—Ogilby 121.
- Lepidotrigla calodactyla** Ogilby. North Reef—Ogilby 114.
- Paratrigla umbrosa** Ogilby. Between Double Island Point and Pine Peak—Ogilby 114.

Series DACTYLOPTERIFORMES.

Family DACTYLOPTERIDÆ.

- Ebisinus procne** Ogilby. Moreton Bay—Ogilby 115.
- Dactyloptena orientalis** Cuvier & Valenciennes. Endeavour River—Macleay 55.
- Dactyloptena papilio** Ogilby. Between Cape Moreton and Edgumbe Bay—Ogilby 114. Off Cape Gloucester ; Platypus Bay ; Cape Moreton—Ogilby 121.

Order CHROMIDES.

Family POMACENTRIDÆ.

- Amphiprion polymnus** Bloch. Endeavour River ; Cooktown—Macleay 56, as *A. clarkii* Bennett.
- Amphiprion percula** Lacepede. Darnley Island—Alleyne & Macleay 1, and Cockerell 14. Queensland—Kent 47.
- Amphiprion bicinctus** Rüppell. Queensland—Kent 47.
- Amphiprion ruppellii** Castelnau. Cape York—Castelnau 7.
- Amphiprion bifasciatus** Bloch. Darnley Island—Ogilby 120.

- Amphiprion papuensis* Macleay. Whitsunday Group; coll. E. H. Rainford (Australian Museum collection).
- Premnas gibbosus* Castelnau. Cape York—Castelnau 7.
- Dascyllus aruanus* Linnæus. Queensland—Castelnau 7. Murray Island—McCulloch 66.
- Parma polylepis* Gunther. Moreton Bay—Ogilby 121.
- Acanthochromis longicaudus* Alleyne & Macleay. Cape Grenville—Alleyne & Macleay 1.
- Acanthochromis maculosus* De Vis. Cardwell—De Vis 158.
- Acanthochromis brevispinis* De Vis. Queensland coast—De Vis 158.
- Daya jerdoni* Day. Around the Capricorn Group—McCulloch 81.
- Daya jerdoni* var. *fusca* McCulloch. Off Double Island Point; off Cape Capricorn; off Bustard Head Light; off Hervey Bay; off Bowen—McCulloch 81.
- Pomacentrus prosoptænia* Bleeker. Cardwell—De Vis 158.
- Pomacentrus profundus* De Vis. Barrier Reef—De Vis 158.
- Pomacentrus apicalis* De Vis. Barrier Reef—De Vis 158. Holbourne Island; Port Denison—McCulloch 76.
- Pomacentrus frenatus* De Vis. Cardwell—De Vis 158.
- Pomacentrus littoralis* Kuhl & van Hasselt. Dove's Island—Gunther 24. Cape York—Castelnau 7. Cape Grenville; Palm Islands—Alleyne & Macleay 1. Endeavour River—Macleay 56.
- Pomacentrus obscurus* Alleyne & Macleay. Queensland—Alleyne & Macleay 1.
- Pomacentrus tæniurus* Bleeker. Port Denison—Klunzinger 49.
- Pomacentrus trilineatus* Cuvier & Valenciennes. Port Denison—Klunzinger 49.
- Pomacentrus nigricans* Lacepede. Cardwell—De Vis 173, as *P. subniger*.
- Pomacentrus modestus* Castelnau. Gulf of Carpentaria—Castelnau 7.
- Pomacentrus chrysurus* Broussonet. Darnley Island—Alleyne & Macleay 1.
- Glyphisodon palmeri* Ogilby. Moreton Bay; Caloundra; Sweers Island, Gulf of Carpentaria—Ogilby 120. Capricorn Group; Cape Bedford; Two Isles; Masthead Island; Torres Strait—McCulloch 81.
- Glyphisodon expansus* De Vis. Barrier Reef—De Vis 158.
- Glyphisodon luteo-caudata* Kent. Queensland—Kent 47.
- Glyphisodon saxatilis* Linnæus. Cape York—Castelnau 7, as *G. waigiensis* Cuv. & Val.
- Glyphisodon septemfasciatus* Cuvier & Valenciennes. Raine Island—Gunther 36.
- Glyphisodon bankieri* Richardson. Cape Grenville—Alleyne & Macleay 1.
- Glyphisodon melanopus* Bleeker. Port Denison—Klunzinger 49.
- Glyphisodon sordidus* Forskal. Raine Island—Gunther 36.
- Glyphisodon zonatus* Cuvier & Valenciennes. Murray Island—McCulloch 63.
- Chromis virescens* Ogilby. Hervey Bay—Ogilby 127.

Order PHARYNGOGNATHI.

Family CORIDÆ.

- Chelio inermis* Förskal. Moreton Bay—Ogilby 117.
- Coris aygula* Lacepede. Northern Queensland—Ogilby 121.
- Coris coronata* De Vis. Murray Island—De Vis 158.
- Coris pallida* Macleay. Endeavour River—Macleay 56.
- Pseudolabrus guntheri* Bleeker. Moreton Bay—De Vis 155, as *Labrichthys dux*, and 158, as *L. guntheri* Bleeker?, *L. cruentatus*, *L. rex*, and *L. maculatus*. Barrier Reef—De Vis 158, as *L. sexlineatus*. Masthead Island—McCulloch 66.
- Pseudolabrus gymnotus* Gunther. Caloundra Banks—Ogilby 112, as *P. nigromarginatus* Macleay. Mooloolah—Ogilby 112. Moreton Bay—McCulloch 66.
- Thalassoma melapterus* Bloch. Torres Strait—Richardson 143. Endeavour Reef—Gunther 24. Darnley Island—Alleyne & Macleay 1, as *Cheilolabrus magnilabris*.
- Platyglottis amabilis* De Vis. Murray Island—De Vis 158.
- Platyglottis equinus* De Vis. Cardwell—De Vis 158.
- Platyglottis punctatus* De Vis. Murray Island—De Vis 158.
- Platyglottis immaculatus* Macleay. Dunk Island—Ogilby 112.
- Platyglottis notopsis* Kuhl & van Hasselt. Murray Island—McCulloch 63.
- Halichoeres nebulosus* Cuvier & Valenciennes. Masthead Island—McCulloch 61.
- Halichoeres opercularis* Gunther. Masthead Island—McCulloch 61.
- Halichoeres trimaculatus* Quoy & Gaimard. Barrier Reef—De Vis 158, as *Labrichthys nudigena*. Murray Island; Green Island—McCulloch 66.
- Halichoeres scapularis* Bennett. Murray Island—De Vis 158, as *Pseudojulis ziczac*.
- Labroides bicincta* Kent. Lady Elliot Island—Kent 47.
- Labroides auropinna* Kent. Lady Elliot Island—Kent 47.
- Pseudojulis murrayensis* De Vis. Murray Island—De Vis 158.
- Pseudojulis maculifer* Castelnau. Queensland—Castelnau 7.
- Stethojulis strigiventer* Bennett. Low Island—Alleyne & Macleay 1.
- Stethojulis renardi* Bleeker. Green Island; Dunk Island—Ogilby 112.
- Stethojulis kalosoma* Bleeker. Murray Island—McCulloch 63.
- Hinalea axillaris* Quoy & Gaimard. Murray Island—McCulloch 63.
- Thalassoma lunare* Linnæus. Rocky Island; Cape Flattery—Kent 47.
- Thalassoma aeneum* Gunther. Cato Island—Gunther 24.
- Thalassoma ventralis* De Vis. Moreton Bay—De Vis 158.
- Thalassoma cyanopteron* Kent. Rocky Island; Cape Flattery—Kent 47.
- Thalassoma janseni* Bleeker. Murray Island—McCulloch 63.
- Thalassoma dorsale* Quoy & Gaimard. Murray Island—McCulloch 63.

- Julichthys inornatus* De Vis. Barrier Reef—De Vis 158.
Novaculichthys jacksonensis Ramsay & Ogilby. Moreton Bay—Ogilby 123.
Cheilinus oxyrhynchus Bleeker. Cape York—Castlenau 7.
Cheilinus fasciatus Bloch. Turtle Reef; Cape Bedford—Kent 47.
Cheilinus diagrammus Lacepede. Cape Flattery—Gunther 24, as *C. radiatus* Bloch & Schneider.
Cheilinus chlorurus Bloch. Cape York—Castelnau 7, as *C. guttatus* Bleeker.
Epibulus insidiator Pallas. Port Denison; coll. E. H. Rainford (Australian Museum collection).

Family LABRIDÆ.

- (*Labrus*) *iris* Solander. Off Bustard Bay (Solander)—Gunther 24.
Chærodon venustus De Vis. Cape York—Gunther 24, as *Chærops ommopterus* Richardson. Moreton Bay—De Vis 156. Nor-West Islet—Ogilby 121.
Chærodon cyanostolus Richardson. Cape York—Steindachner 147, as *Chærops ommopterus* Richardson.
Chærodon australis Castelnau. Cape York—Castelnau 7. Moreton Bay—Tosh 152.
Chærodon lineatus De Vis. Cardwell—De Vis 158.
Chærodon notatus Alleyne & Macleay. Cape Grenville—Alleyne & Macleay 1.
Chærodon cyanodus Richardson. Bramble Island; Endeavour Strait—Richardson 143. Cape York—Gunther 24, and Steindachner 147. Cape Grenville—Alleyne & Macleay 1. Endeavour River—Klunzinger 49. Somerset, Cape York—Gunther 36. Moreton Bay—Tosh 152.
Chærodon albigena De Vis. Cape York—De Vis 158.
Chærodon macrodon Bleeker. Hope Islands—Gunther 24.
Chærodon cephalotes Castelnau. Cape York—Castelnau 7. Cape Grenville—Alleyne & Macleay 1. Moreton Bay—De Vis 158, as *Chærops perpulcher*. Port Denison—Kent 47, as *C. hodgkinsoni*.
Chærodon rubescens Gunther. Cape York—Castelnau 7.
Chærodon anchorago Bloch. Cardwell—De Vis 158, as *C. graphicus*. Northern Queensland—Ogilby 121.
Chærodon olivaceus De Vis. Barrier Reef; north-east coast of Queensland; Cardwell; Cape York—De Vis 158, as *C. concolor*, *C. unimaculatus*, and *C. olivaceus*.
Chærodon frenatus Ogilby. Off Double Island Point—Ogilby 114.
Chærodon ambiguus Ogilby. Off Double Island Point—Ogilby 114.
Chærodon monostigma Ogilby. Off Pine Peak; off Cape Gloucester—Ogilby 114.
Xiphocheilus fasciatus Gunther. Cape York—Gunther 28. Adolphus Island—Kent 47.
Achærodon gouldii Richardson. Brisbane markets—Ogilby 112, as *A. badius*. Moreton Bay—Ogilby 121.
Lepidaplois vulpina Richardson. Moreton Bay—De Vis 156, as *Cossyphus aurifer*.

Lepidaplois perditio Quoy & Gaimard. Minerva Reef (between Queensland and New Caledonia); Saumarez Reefs (Coral Sea)—Gunther 24, as *Cossyphus atrolumbus*. Off Moreton Bay—Ogilby 123.

Lepidaplois mesothorax Schneider. Barrier Reef—Ogilby 123.

Lepidaplois latro De Vis. Moreton Bay—De Vis 158.

Trochocopus sanguinolentus De Vis. Hutchinson Shoal, Cape Moreton—De Vis 155.

Verreo bellis Ramsay & Ogilby. Moreton Bay—Ogilby 121.

Verreo oxycephalus Bleeker. Arkwright Shoal—Ogilby 112, and 121, as *V. unimaculatus* Gunther.

Family ODACIDÆ.

Neodax nebulosus (De Vis) Kent. Queensland—Kent 47. *Nom. nud.*

Olisthops cyanomelas Richardson. Southport—Ogilby 112.

Family SCARIDÆ.

Scarus cyanotænia Bleeker. Southport—Ogilby 122.

Scarus pyrrhostethus Richardson. Dunk Island—McCulloch 63. Moreton Bay—Ogilby 121.

Scarus fasciatus Cuvier & Valenciennes. Cape Grenville—Alleyne & Macleay 1, as *Pseudoscarus rivulatus* Cuv. & Val.

Scarus strigipinnis De Vis. Cardwell—De Vis 158.

Scarus fuscus De Vis. Barrier Reef—De Vis 158.

Scarus flavipinnis De Vis. Cape York—De Vis 158.

Scarus flavolineatus Alleyne & Macleay. Cape Grenville—Alleyne & Macleay 1.

Scarus nudirostris Alleyne & Macleay. Cape Grenville—Alleyne & Macleay 1.

Scarus obscurus Castelnau. Cape York—Castelnau 7.

Scarus richardsonii Castelnau. Cape York—Castelnau 7.

Scarus viridescens Castelnau. Cape York—Macleay 56.

Scarus sp. Tosh. Moreton Bay—Tosh 152.

Family SPARISOMIDÆ.

Scarichthys auritus Kuhl & van Hasselt. Murray Island—McCulloch 63.

Order GOBIOIDEA.

Family ELEOTRIDÆ.

Eleotris fuscus Bloch & Schneider. North Queensland—McCulloch & Ogilby 89.

Eleotris planiceps Castelnau. Norman River—Castelnau 10.

Eleotris pallidus Castelnau. Cape York—Castelnau 7.

Eleotris robustus De Vis. Queensland coast—De Vis 157.

Eleotris sulcaticollis Castelnau. Brisbane River—Castelnau 10.

- Oxyeleotris lineolatus** Steindachner. Fitzroy River, Rockhampton—Steindachner 146. Palmer River—Macleay 57, as *Eleotris planiceps*, and 59, as *E. selheimi*. Rockhampton, Gracemere, and other lagoons—De Vis 160, as *E. crescens*. Dawson and Flinders Rivers—McCulloch & Ogilby 89.
- Mogurnda mogurnda** Richardson. Queensland—Castelnau 7. Walsh River; Eureka Creek; North Queensland—McCulloch & Ogilby 89.
- Mogurnda mogurnda adpersus** Castelnau. Rockhampton—Castelnau 10. Near Brisbane—De Vis 157, as *Eleotris mimus*. Queensland coast—De Vis 157, as *E. concolor*. Victoria Park, Brisbane—Ogilby 112. Eidsvold; Bundaberg; 25 miles inland from Cairns—McCulloch & Ogilby 89. Fitzroy River—Cooling 16.
- Mogurnda australis** Krefft. Logan River—Ogilby 123.
- Philypnodon grandiceps** Krefft. Warwick—Palmer 130.
- Carassiops klunzingeri** Ogilby. Burnett River—Weber 170, as *Eleotris cyprinoides* Cuv. & Val. Eidsvold—McCulloch & Ogilby 89.
- Carassiops compressus** Krefft. Tiaro, Mary River—Gunther 36. River Dunn, Port Denison—Gunther 29. Cape York—Steindachner 147, as *Eleotris brevirostris*. Port Denison—Macleay 55. Near Brisbane—De Vis 157, as *E. humilis*. North-east coast of Queensland—De Vis 157, as *E. cavifrons*. Mary River—Ogilby 103, as *C. brevirostris* Steindachner. Brisbane—Waite 169. Killarney, Condamine River—Ogilby 109, as var. *montanus*.
- Carassiops galii** Ogilby. Brisbane; Bundaberg—McCulloch & Ogilby 89.
- Carassiops simplex** Castelnau. Norman River—Castelnau 10.
- Asterropteryx semipunctatus** Rüppell. Port Bowen—Gunther 34. Somerset, Cape York—De Vis 157, as *Eleotris cyanostigma* Bleeker.
- Butis amboinensis** Bleeker. Brisbane River—De Vis 157, as *Eleotris longicauda*. Nerang Creek; Logan River; Brisbane River; Pine River; Noosa Creek; Mary River—Ogilby 115.
- Ophiocara aporos** Bleeker. Port Denison; Cape York—Gunther 29. Lillesmere Lagoon, Burdekin River—Macleay 58, as *Eleotris planiceps*. Burdekin River; Barron River; Ingham; Cairns—McCulloch & Ogilby 89.
- Ophiocara darwiniensis** Macleay. Port Denison—Klunzinger 49. Rockingham Bay—Macleay 55. Cooktown—McCulloch & Ogilby 89.
- Ophiocara macrolepidotus** Bloch. Mary River—Gunther 36. Burnett River—Weber 170.
- Pariglossus rainfordi** McCulloch. Bowen—McCulloch 80.
- Valenciennaea muralis** Cuvier & Valenciennes. Cape York—Gunther 29. Endeavour River—Macleay 55. Darnley Island—Alleyne & Macleay 1, as *Eleotris lineata* Castelnau. Dunk Island—McCulloch & Ogilby 89.

Valenciennaea longipinnis Bennett. Low Island—Macleay 55, as *Eleotris tæniura*. Green Island, Cairns—Waite 168. Darnley Island—Ogilby 120. Masthead Island—McCulloch & Ogilby 89.

Valenciennaea lineata Castelnau. Cape York—Castelnau 7.

Ptereleotris microlepis Bleeker. Darnley Island—Alleyne & Macleay 1, as *Eleotris elongata*.

Eviota viridis Waite. Murray Island; Cairns Reef; Masthead Island—McCulloch 66. Between Port Curtis and Torres Strait—McCulloch & Ogilby 89.

Family GOBIIDÆ.

Gobius ornatus Rüppell. Somerset, Cape York—Gunther 36. Cape York—Steindachner 147. Darnley Island—Alleyne & Macleay 1. Palmer River—Klunzinger 49. Murray Island; Cairns Reef; Two Isles—McCulloch & Ogilby 89.

Gobius flavescens De Vis. Moreton Bay—De Vis 157.

Gobius pauper De Vis. Moreton Bay—De Vis 157.

Gobius princeps De Vis. Cape York—De Vis 157.

Gobius watkinsoni De Vis. Moreton Bay—De Vis 157.

Gobius neophytus Gunther. Murray Island—McCulloch 63.

Gobius nigroocellatus Gunther. Bowen—Macleay 55.

Gobius voigtii Bleeker. Cape York—Gunther 29.

Gobius microlepidotus Castelnau. Cape York—Castelnau 7.

Gobius platystomia Gunther. Port Mackay—Macleay 55.

Amblygobius bynoensis Richardson. Cape York—Steindachner 147. Cape Grenville—Alleyne & Macleay 1, as *Apocryptes lineatus*. Palm Islands—Macleay 55. Thursday Island—Weber 170.

Amblygobius phalæna Cuvier & Valenciennes. Cape York—De Vis 157, as *Gobius annulatus*. Murray Island—McCulloch 62. Darnley Island—Ogilby 120. Two Isles; Masthead Island—McCulloch & Ogilby 89.

Exyrias puntang Bleeker. Cape York—De Vis 157, as *Gobius concolor*.

Glossogobius biocellatus Cuvier & Valenciennes. Finches Creek, Cooktown—McCulloch & Ogilby 89.

Glossogobius giurus Buchanan. Queensland coast—De Vis 157, as *Eleotris laticeps*. Norman River—Castelnau 10, as *Gobius ? sauroides*.

Bathygobius fuscus Rüppell. Palm Islands—Alleyne & Macleay 1, as *Gobius nigripinnis*. Darnley Island—Alleyne & Macleay 1, as *G. darnleyensis*. Cape York—De Vis 157, as *G. marginalis*. Cooktown to Port Curtis; Masthead Island; Murray Island; Sweers Island, Gulf of Carpentaria—McCulloch & Ogilby 89.

Bathygobius maculatus Castelnau. Queensland—Castelnau 95.

- Mugilogobius devisi** McCulloch & Ogilby. Moreton Bay—De Vis 157, as *Gobius stigmaticus*.
- Rhinogobius nebulosus** Forskal. Cape York—Steindachner 147, as *Gobius caninus* Cuv. & Val. Darnley Island—Alleyne & Macleay 1, as *G. criniger* Cuv. & Val. Cape York—De Vis 157, as *G. festivus*. Thursday Island—McCulloch & Ogilby 89.
- Rhinogobius leftwichi** Ogilby. Great Sandy Strait; Woody Point, Moreton Bay—Ogilby 115.
- Cryptocentrus gobioides** Ogilby. Moreton Bay; Great Sandy Strait—Ogilby 115.
- Zonogobius nuchifasciatus** Gunther. Bowen—Macleay 55. Dunk Island; Masthead Island—McCulloch 63, as *Z. semidoliatus* Cuv. & Val.
- Parachæturichthys polynema** Bleeker. Somerset—McCulloch & Ogilby 89.
- Callogobius hasseltii** Bleeker. Masthead Island; Cairns Reef; Two Isles—McCulloch & Ogilby 89.
- Callogobius sclateri** Steindachner. Two Isles—McCulloch & Ogilby 89.
- Oxyurichthys cornutus** McCulloch & Waite. Cairns—McCulloch & Waite 90.
- Chonophorus crassilabris** Gunther. Townsville—McCulloch & Ogilby 89.
- Paragobiodon echinocephalus** Rüppell. Endeavour River—Macleay 55, as *Gobius gibbosus* and *G. scabriceps*. Cairns—Garman 20, as *Gobius waitii*. Port Bowen—Gunther 34. Nor-west Islet; Masthead Island—Ogilby 120. Green Island; Murray Island—McCulloch & Ogilby 89.
- Gobiodon citrinus** Rüppell. Endeavour River—Macleay 55. Murray Island—McCulloch & Ogilby 89.
- Gobiodon quinquestrigatus** Cuvier & Valenciennes. Cape York—Gunther 29. Cairns Reef, Cooktown—McCulloch & Ogilby 89.
- Gobiodon quinquestrigatus ceramensis** Bleeker. Port Denison—Klunzinger 49. Darnley Island—Macleay 55. Murray Island—McCulloch & Ogilby 89.
- Gobiodon verticalis** Alleyne & Macleay. Eclipse Island; Cape Sidmouth—Castelnau 6, as *Ellerya unicolor*. Endeavour River; Darnley Island—Macleay 55. Thursday Island and southwards—Kent 47, as *Gobius douglasi*. Murray Island; Green Island; Nor-west Islet—McCulloch & Ogilby 89.
- Leme mordax** De Vis. Murray River—De Vis 155. Ripple Creek, Herbert River; Cooktown—McCulloch & Ogilby 89.
- Leme purpurascens** De Vis. Brisbane River—De Vis 157. Queensland—De Vis 157, as *Amblyopus niger*.

Family PERIOPHTHALMIDÆ.

- Periophthalmus koelreuteri argenteolineatus** Cuvier & Valenciennes. Brisbane River—Castelnau 9. Torres Strait—Macleay 55. Great Barrier Reef—Garman 20. Cooktown; Cape Bedford—McCulloch & Ogilby 89.
- Periophthalmodon barbarus** Linnæus. Cardwell—Gunther 36. North Queensland—Castelnau 7, as *P. australis*. Cape York—Alleyne & Macleay 1. Norman River—Castelnau 10. Burdekin River; Mary River—Macleay 58. Keppel Bay—Garman 20, as *P. schlosseri* Pallas. Cairns; Cooktown; Cape York—McCulloch & Ogilby 89.

Scartelaos viridis H. Buchanan. Burnett River; Deception Bay; Ross River at Townsville; Brisbane River; Pioneer River; Barron River—McCulloch & Ogilby 89.

Order DISCOCEPHALI.

Family ECHENEIDÆ.

Echeneis naucrates Linnaeus. Darnley Island; Cape York—Alleyne & Macleay 1. Cardwell—Castelnau 9. Queensland—Klunzinger 49. Above Victoria Bridge, Brisbane River; Nor-West Islet—Ogilby 121.

Order JUGULARES.

Series CALLIONYMIFORMES.

Family CALLIONYMIDÆ.

Callionymus calaurogomus Richardson. Queensland—De Vis 154, as *C. achates*.

Callionymus macdonaldi Ogilby. Moreton Bay—Ogilby 117.

Callionymus limiceps Ogilby. Moreton Bay—Ogilby 111. Between Hervey Bay and Port Denison—McCulloch 85.

Callionymus, Calliurichthys, grossi Ogilby. Moreton Bay—Ogilby 115. Cape Moreton—McCulloch 85.

Callionymus, Calliurichthys, japonicus Houttuyn. Off Cape Moreton—Ogilby 114, as *C. affinis*.

Dactylopus dactylopus Cuvier & Valenciennes. Moreton Bay—Ogilby 111. Stradbroke Island; Wynnum—Ogilby 115. Off Hervey Bay—McCulloch 70.

Series PERCOPHIDIFORMES.

Family PARAPERCIDÆ.

Parapercis, Parapercis, cylindrica Bloch. Sir Charles Hardy's Island—Günther 22. Murray Island; Dunk Island; Moreton Bay—Ogilby 115. Darnley Island—Cockerell 14.

Parapercis, Chalias, nebulosa Quoy & Gaimard. Moreton Bay—De Vis 157, as *Percis concinna*. Off Bustard Head; Boomerang Hill; Fraser Island; Double Island Point; mouth of Wide Bay—McCulloch 68.

Parapercis, Chalias, stricticeps De Vis. Southport—De Vis 157. Moreton Bay—Ogilby 115.

Parapercis, Chalias, polyophthalma Cuvier & Valenciennes. Murray Island—McCulloch 63, as *P. hexophthalma* Cuv. & Val.

Parapercis, Chalias, xanthozona Bleeker. Thursday Island—Weber 170.

Parapercis, Neopercis, sp. Tosh. Moreton Bay—Tosh 152.

Family TRICHONOTIDÆ.

Trichonotus blochii Castelnau. Gulf of Carpentaria—Castelnau 7.

Series URANOSCOPIFORMES.

Family OPISTHOGNATHIDÆ.

Gnathypops maculatus Alleyne & Macleay. Palm Islands—Alleyne & Macleay 1. Torres Strait—Ramsay 135, as *Batrachus punctulatus*. Dunk Island—Ogilby 126.

Gnathypops inornatus Ramsay & Ogilby. Northern Queensland—Ogilby 121.

Merogymnus eximius Ogilby. Off Moreton Bay—Ogilby 112.

Merogymnus jacksoniensis Macleay. Moreton Bay—O'Connor 93, and Ogilby 126.

Family URANOSCOPIDÆ.

Uranoscopus terræ-reginæ Ogilby. Off Double Island; North Reef; Cape Gloucester—Ogilby 114.

Ichthyoscopus lebeck Bloch & Schneider. Moreton Bay—Ogilby 121.

Family LEPTOSCOPIDÆ.

Crapatalus arenarius McCulloch. Cape Moreton; Point Lookout—Ogilby 118, as *Leptoscopus macropygus* Richardson. Stradbroke Island—McCulloch 71.

Series BLENNIIFORMES.

Family CLINIDÆ.

Lepidoblennius haplodactylus Steindachner. Fitzroy River, Rockhampton—Steindachner 146. Rockhampton—Gunther 29. Moreton Bay; Cape Moreton—McCulloch 71.

Scleropteryx devisi Ogilby. Moreton Bay—Ogilby 101.

Tripterygion atrigulare Gunther. Bowen—Macleay 56.

Tripterygion annulatum Ramsay & Ogilby. Moreton Bay—Ogilby 122.

Family BLENNIIDÆ.

Blennius intermedius Ogilby. Darnley Island—Ogilby 122.

Blennius cinereus Castelnau. Queensland—Castelnau 7.

Blennius pardalis Castelnau. Cape York—Castelnau 7.

Petroscirtes lineatus De Vis. Murray Island—De Vis 157.

Petroscirtes japonicus Bleeker. St. Helena, Moreton Bay—De Vis 157, as *Salarias helenæ*. Woody Point; Great Sandy Strait; Moreton Bay—Ogilby 115.

Petroscirtes rotundiceps Macleay. Moreton Bay—De Vis 160, as *Salarias furtivus*. Wide Bay—Ogilby 115.

Petroscirtes anolius Cuvier & Valenciennes. St. Helena, Moreton Bay—De Vis 157, as *Salarias galeatus*. Moreton Bay; Great Sandy Strait—Ogilby 115. Caloundra—McCulloch 74.

Petroscirtes viperidens De Vis. Somerset—De Vis 157.

Petroscirtes lupus De Vis. Moreton Bay—De Vis 160.

Petroscirtes ? decipiens De Vis. Cardwell—De Vis 157.

Petroscirtes ? furcatus De Vis. St. Helena, Moreton Bay—De Vis 157.

Salarias geminatus Alleyne & Macleay. Torres Strait—Alleyne & Macleay 1. Darnley Island—Alleyne & Macleay 1, as *S. cristiceps*. Murray Island—McCulloch & McNeill 88.

- Salarias rivulatus** Rüppell. Masthead Island ; Murray Island—McCulloch & McNeill 88.
- Salarias belemnites** De Vis. Queensland coast—De Vis 157.
- Salarias fuscus** Rüppell. Murray Island ; Masthead Island—McCulloch & McNeill 88.
- Salarias fasciatus** Bloch. Cape Grenville—Alleyne & Macleay 1. Darnley Island—Alleyne & Macleay 1, as *S. lineolatus*. Cardwell—De Vis 157, as *S. pauper* and *S. sublineatus*. Queensland coast—De Vis 157, as *S. furvus*. Two Isles—McCulloch 86. Murray Island ; Dunk Island ; Masthead Island—McCulloch & McNeill 88.
- Salarias meleagris** Cuvier & Valenciennes. Cape York—Steindachner 147. Nepean Island—Alleyne & Macleay 1. Port Denison—Klunzinger 49. Eagle Island ; Two Isles ; Rat Island, Port Curtis ; Masthead Island ; Caloundra—McCulloch & McNeill 88.
- Salarias irroratus** Alleyne & Macleay. Low Island—Alleyne & Macleay 1. Murray Island—De Vis 157, as *S. calvus*. Darnley Island—Ogilby 118. Near Cape Bedford—McCulloch & McNeill 88.
- Salarias dussumieri** Cuvier & Valenciennes. Darnley Island—Alleyne & Macleay 1, as *S. auridens*, and Macleay 56, as *S. cheverti*.
- Salarias lineatus** Bleeker. Murray Island—McCulloch & McNeill 88.
- Salarias crenulatus** Weber. Masthead Island—McCulloch 86.
- Cirripectes filamentosus** Alleyne & Macleay. Cape York—Alleyne & Macleay 1. Darnley Island—Ogilby 120, as *Salarias alboapicalis*.
- Ecsenius mandibularis** McCulloch. Masthead Island—McCulloch 86.

Family CHÆNOPSIDÆ.

- Gunnelichthys** sp. Weber. Thursday Island—Weber 170.

Family OPHIOCLINIDÆ.

- Stenophus marmoratus** Castelnau. Gulf of Carpentaria—Castelnau 7.
- Stenophus obscurus** Castelnau. Gulf of Carpentaria—Castelnau 7.

Family NOTOGRAPTIDÆ.

- Notograptus guttatus** Gunther. Cape York—Gunther 29. Queensland—Castelnau 7, as *Blanchardia maculata*. Port Denison—Klunzinger 49.

Series FIERASFERIFORMES. Family FIERASFERIDÆ.

- Fierasfer homei** Richardson. Trinity Bay—Alleyne & Macleay 1. Torres Strait—Macleay 56.
- Fierasfer haulti** Ogilby. Off Double Island Point—Ogilby 127.

Series BROTULIFORMES.

Family BROTULIDÆ.

Aphyonus gelatinosus Gunther. Between North-east Australia and New Guinea, 1,400 fathoms—Gunther 38.

Dinematichthys mizolepis Gunther. Cape York—Gunther 29.

Typhlonus nasus Gunther. North-east of Australia, 2,440 fathoms—Gunther 38.

Series ZOARCIFORMES.

Family CONGROGADIDÆ.

Congrogadus subducens Richardson. Cape York, "Challenger" Station 186—Gunther 36. Cape York—Steindachner 147. Port Denison—Klunzinger 49. Thursday Island—Weber 170.

Blennodesmus scapularis Gunther. Port Mackay—Gunther 33. Masthead Island—McCulloch 69.

Suborder HAPLODOCI.

Family BATRACHOIDIDÆ.

Pseudobatrachus dubius Shaw. Queensland coast—De Vis 157, as *Thalassophryne cæca*. Cardwell; Moreton Bay—Ogilby 111. Sue Island, Torres Strait—Alleyne & Macleay 1. Cape York; Moreton Bay—Ogilby 111, as *Batrachomæus minor*.

Pseudobatrachus striatus Castelnau. Cape York—Castelnau 7.

Pseudobatrachus broadbenti Ogilby. Cardwell; Bundaberg—Ogilby 111.

Coryzichthys diemensis Le Sueur. Cape York, "Challenger" Station 186—Gunther 36. Cape York—Steindachner 147. Cape Grenville; Torres Strait—Alleyne & Macleay 1. Darnley Island—Alleyne & Macleay 1, as *Batrachus dussumieri*? Cuv. & Val. Port Denison—Klunzinger 49. Queensland—De Vis 153, as *Porichthys queenslandiæ*. Thursday Island—Weber 170, and Ogilby 111. Moreton Bay—Ogilby 111.

Order XENOPTERYGII.

Family GOBIESOCIDÆ.

Lepadichthys frenatus Waite. Nor-west Islet—Ogilby 118.

Order PEDICULATI.

Family LOPHIIDÆ.

Chirolophus laticeps Ogilby. Off Cape Moreton—Ogilby 114.

Family ANTENNARIIDÆ.

Tathicarpus mucosus Ogilby. Port Curtis—Ogilby 109. Wide Bay—Ogilby 118.

Tathicarpus butleri Ogilby. Port Curtis—Ogilby 109.

Tathicarpus appeli Ogilby. Wide Bay—Ogilby 127.

Antennarius commersonii Lacepede. Queensland—De Vis 157, as *A. moluccensis* Bleeker.

Antennarius asper Macleay. Darnley Island—Alleyne & Macleay 1, as *A. urophthalmus* Bleeker, and Macleay 55.

Antennarius stigmaticus Ogilby. Moreton Bay—Ogilby 118.

Family OGCOCEPHALIDÆ.

Haliutæa brevicauda Ogilby. Off Cape Moreton—Ogilby 114.

Order PLECTOGNATHI.

Suborder SCLERODERMI.

Family TRIACANTHIDÆ.

Triacanthus biaculeatus Bloch. Cape York—Alleyne & Macleay 1. Cardwell—Castelnau 9. Port Denison—Klunzinger 49. Lower Burdekin River—Macleay 58.

Triacanthus falcanalis Ogilby. Brisbane River; Moreton Bay—Ogilby 116.

Family BALISTIDÆ.

Balistes garnoti Castelnau. Nob or Knob Island—Castelnau 6.

Balistes chrysopterus Bloch & Schneider. Murray Island—McCulloch 63.

Balistes capistratus Shaw. Moreton Bay—Ogilby 121.

Abalistes stellaris Bloch & Schneider. Hope Island—Gunther 32, as *Balistes stellatus* Lacepede. Queensland—Castelnau 7.

Balistapus aculeatus Linnæus. Torres Strait—Macleay 56.

Balistapus undulatus Bloch & Schneider. Cape York—Castelnau 7.

Family MONACANTHIDÆ.

Monacanthus chinensis Bloch. Port Denison—Klunzinger 49. Moreton Bay—Ogilby 121.

Monacanthus megalourus Richardson. Moreton Bay—Peters 132.

Monacanthus tomentosus Linnæus. Endeavour River—Macleay 56. Thursday Island—Weber 170.

Monacanthus sp. Kent. Moreton Bay and northwards—Kent 47.

Stephanolepis melanocephalus Bleeker. Murray Island—McCulloch 62.

Chætodermis penicilligerus Cuvier. Cape York—Gunther 32. Queensland—Castelnau 7. Port Denison—Klunzinger 49.

Cantherines melanoides Ogilby. Cape Moreton—Ogilby 112.

Cantherines trachylepis Gunther. Moreton Bay—Cockerell 15, and Ogilby 121.

Cantherines granulatus Shaw. Moreton Bay—Ogilby 121.

Cantherines ayraudi Quoy & Gaimard. Moreton Bay—Ogilby 121.

Cantherines brunneus Castelnau. Nob or Knob Island—Castelnau 6. Crispin Reef—McCulloch 76.

Cantherines maynardi Ogilby. Cowan Cowan, Moreton Bay—Ogilby 124. Moreton Bay; Port Curtis; Hervey Bay; Hummocky Island—Ogilby 125.

Oxymonacanthus longirostris Bloch & Schneider. Murray Island—McCulloch 63.

Family PSILOCEPHALIDÆ.

Psilocephalus barbatus Gray. Platypus Bay—Ogilby 123.

Suborder OSTRACODERMI.

Family OSTRACIIDÆ.

Ostracion tuberculatum Linnæus. Cape York—Alleyne & Macleay 1, as *O. cubicus* Linnæus. Fair Cape—Macleay 56.

Ostracion, Lactoria, cornuta Linnæus. Queensland; Port Denison—Klunzinger 49. Endeavour River—Macleay 56.

Suborder GYMNODONTES.

Family TETRAODONTIDÆ.

Tetraodon immaculatus Bloch & Schneider. Cape York—Gunther 32, as *T. immaculatus* var. *virgata* Richardson.

Tetraodon reticularis Bloch & Schneider. Lower Burdekin River—Macleay 58.

Tetraodon nigropunctatus Bloch & Schneider. Murray Island—McCulloch 63.

Spheroides multistriatus Richardson. Townsville; Caloundra Bank—Ogilby 125.

Spheroides pleurogramma Regan. Moreton Bay—McCulloch 67.

Spheroides inermis Schlegel. Lower Burdekin River—Macleay 58, as *Tetrodon lævigatus* Linnæus. Torres Strait—Macleay 56.

Spheroides spadiceus Richardson. Moreton Bay—Castelnau 12, as *Tetrodon lunaris* Bloch. Queensland—Klunzinger 49.

Spheroides scleratus Forster. Cape York—Alleyne & Macleay 1.

Spheroides hamiltoni Richardson. Port Denison—Klunzinger 49.

Spheroides perlevis Ogilby. Sandgate, Moreton Bay—Ogilby 112.

Spheroides pleurostictus Gunther. Brisbane River—Castelnau 9, as *Tetrodon bibroni*. Moreton Bay—Macleay 56, as *T. bibronii* Cast. Port Bowen; Port Mackay—Macleay 56.

Spheroides tuberculiferus Ogilby. Off Bustard Head; off Double Island Point; Moreton Bay—McCulloch 70. Moreton Bay; Wide Bay—Ogilby 118.

Spheroides squamicauda Ogilby. Coast of South Queensland—Ogilby 115.

Spheroides ? staigeri Castelnau. Brisbane River—Castelnau 9.

Family CANTHIGASTERIDÆ.

Canthigaster valentini Bleeker. Murray Island—McCulloch 83.

Canthigaster bennettii Bleeker. Murray Island—McCulloch 83.

Canthigaster callisternus Ogilby. Southport—Ogilby 118.

Canthigaster cinctus Richardson. Capricorn Group—McCulloch 83.

Family DIODONTIDÆ.

Diodon holacanthus Linnæus. Port Denison—Klunzinger 49.

Dicotylichthys myersi Ogilby. Moreton Bay—Ogilby 115.

Chilomycterus grandoculis Ogilby. Brisbane River; Moreton Bay—Ogilby 115.

BIBLIOGRAPHY.

1. ALLEYNE, H. G. & MACLEAY, W. . . 1877. Proc. Linn. Soc. N.S.Wales, i.
2. BANCROFT, T. L. 1912. Proc. Roy. Soc. Qld., xxiii.
3. Do. 1916. Proc. Roy. Soc. Qld., xxviii.
4. BOULENGER, G. A. 1895. Cat. Fish. Brit. Mus., i.
5. Do. 1911. Zool. Record (1909), xlv.
6. CASTELNAU, F. DE 1873. Proc. Zool. Soc. Vict., ii.
7. Do. 1875. Res. Fish. Austr. (Vict. Offic. Rec. Philad. Exhib.).
8. Do. 1876. Journ. Zoologie, v.
9. Do. 1878. Proc. Linn. Soc. N.S. Wales, ii.
10. Do. 1878. Proc. Linn. Soc. N.S. Wales, iii.
11. Do. 1879. Proc. Linn. Soc. N.S. Wales, iii.
12. Do. 1879. Proc. Linn. Soc. N.S. Wales, iv.
13. COCKERELL, T. D. 1913. Mem. Qld. Mus., ii.
14. Do. 1915. Mem. Qld. Mus., iii.
15. Do. 1916. Mem. Qld. Mus., v.
16. COOLING, L. E. 1913. Ann. Rept. Comm. Publ. Health Qld.
17. CUVIER, G. & VALENCIENNES, A. . . 1831. Hist. Nat. Poissons, vii.
18. DUNCKER, G. 1909. Faun. S.W. Austr., ii, 15.
19. Do. 1915. Jahrb. Hamburg Wiss. Aust., xxxii.
20. GARMAN, S. 1903. Bull. Mus. Comp. Zool., xxix.
21. GÜNTHER, A. 1859. Cat. Fish. Brit. Mus., i.
22. Do. 1860. Cat. Fish. Brit. Mus., ii.
23. Do. 1861. Cat. Fish. Brit. Mus., iii.
24. Do. 1862. Cat. Fish. Brit. Mus., iv.
25. Do. 1864. Cat. Fish. Brit. Mus., v.
26. Do. 1864. Ann. Mag. Nat. Hist., xiv.
27. Do. 1866. Cat. Fish. Brit. Mus., vi.
28. Do. 1867. Proc. Zool. Soc., 1867.
29. Do. 1867. Ann. Mag. Nat. Hist. (3), xx.
30. Do. 1868. Cat. Fish. Brit. Mus., vii.
31. Do. 1870. Proc. Zool. Soc., 1870.
32. Do. 1870. Cat. Fish. Brit. Mus., viii.
33. Do. 1871. Proc. Zool. Soc., 1871.
34. Do. 1877. Fische Sudsee, vi.
35. Do. 1878. Ann. Mag. Nat. Hist. (5), ii.
36. Do. 1880. Report Voy. Challenger, i., 6.
37. Do. 1884. Zool. Alert, Pisces.
38. Do. 1887. Rept. Voy. Challenger, xxii.
39. HASWELL, W. A. 1908. Rec. Austr. Mus., vii., 1.
40. JOHNSTON, T. H. & BANCROFT, M. J. 1915. Proc. Roy. Soc. Tasm., xxvii.
41. Do. 1919. Proc. Linn. Soc. N.S. Wales, lii.
42. Do. 1921. Proc. Roy. Soc. Qld., xxxiii., 10.
43. JORDAN, D. S. & STARKS, E. C. . . 1917. Ann. Carneg. Mus., xi.
44. JORDAN, D. S. & THOMPSON, W. F. . 1912. Proc. U.S. Nat. Mus., xli.

- | | | | | | |
|------|-----------------------------------|----|----|----|--|
| 45. | KENT, W. S. | .. | .. | .. | 1891. Oysters and Oyster Fisher. Qld. |
| 46. | Do. | .. | .. | .. | 1892. Proc. Roy. Soc. Qld., viii. |
| 47. | Do. | .. | .. | .. | 1893. Gt. Barrier Reef. |
| 48. | Do. | .. | .. | .. | 1897. Naturalist in Australia. |
| 49. | KLUNZINGER, C. B. | .. | .. | .. | 1879. Sitzb. Akad. Wiss. Wien, lxxx., 1. |
| 50. | KREFFT, G. | .. | .. | .. | 1870. Proc. Zool. Soc., 1870. |
| 51. | LITTLEJOHN, G. | .. | .. | .. | 1883. Proc. Linn. Soc. N.S. Wales, viii. |
| 52. | LUCAS, A. H. | .. | .. | .. | 1895. Proc. Linn. Soc. N.S. Wales (2), ix. |
| 53. | MACLEAY, W. | .. | .. | .. | 1879. Proc. Linn. Soc. N.S. Wales, iv. |
| 54. | Do. | .. | .. | .. | 1880. Proc. Linn. Soc. N.S. Wales, iii. |
| 55. | Do. | .. | .. | .. | 1881. Proc. Linn. Soc. N.S. Wales, v. |
| 56. | Do. | .. | .. | .. | 1881. Proc. Linn. Soc. N.S. Wales, vi. |
| 57. | Do. | .. | .. | .. | 1882. Proc. Linn. Soc. N.S. Wales, vii. |
| 58. | Do. | .. | .. | .. | 1883. Proc. Linn. Soc. N.S. Wales, viii. |
| 59. | Do. | .. | .. | .. | 1884. Proc. Linn. Soc. N.S. Wales, ix. |
| 60. | Do. | .. | .. | .. | 1886. Proc. Linn. Soc. N.S. Wales (2), 1. |
| 60a. | MARSHALL, T. C. | .. | .. | .. | 1925. Mem. Qld. Mus. viii., 2. |
| 61. | MCCULLOCH, A. R. | .. | .. | .. | 1910. Proc. Linn. Soc. N.S. Wales, xxxv. |
| 62. | Do. | .. | .. | .. | 1911. Proc. Linn. Soc. N.S. Wales, xxxvi. |
| 63. | Do. | .. | .. | .. | 1912. Proc. Linn. Soc. N.S. Wales, xxxvi. |
| 64. | Do. | .. | .. | .. | 1912. Rec. W. Austr. Mus., i., 2. |
| 65. | Do. | .. | .. | .. | 1912. Proc. Roy. Soc. Qld., xxiv. |
| 66. | Do. | .. | .. | .. | 1913. Rec. Austr. Mus., ix., 3. |
| 67. | Do. | .. | .. | .. | 1914. Rec. W. Austr. Mus., i., 3. |
| 68. | Do. | .. | .. | .. | 1914. Biol. Res. Endeavour, ii., 3. |
| 69. | Do. | .. | .. | .. | 1915. Mem. Qld. Mus., iii. |
| 70. | Do. | .. | .. | .. | 1915. Biol. Res. Endeavour, iii., 3. |
| 71. | Do. | .. | .. | .. | 1915. Proc. Linn. Soc. N.S. Wales, xl., 2. |
| 72. | Do. | .. | .. | .. | 1916. Biol. Res. Endeavour, iv., 4. |
| 73. | Do. | .. | .. | .. | 1916. Mem. Qld. Mus., v. |
| 74. | Do. | .. | .. | .. | 1917. Austr. Zoologist, i., 4. |
| 75. | Do. | .. | .. | .. | 1917. Rec. Austr. Mus., xi., 7. |
| 76. | Do. | .. | .. | .. | 1918. Mem. Qld. Mus., vi. |
| 77. | Do. | .. | .. | .. | 1919. Rec. Austr. Mus., xii., 8. |
| 78. | Do. | .. | .. | .. | 1920. Rec. Austr. Mus., xiii., 2. |
| 79. | Do. | .. | .. | .. | 1921. Rec. Austr. Mus., xiii., 4. |
| 80. | Do. | .. | .. | .. | 1921. Proc. Linn. Soc. N.S. Wales, xlvi., 4. |
| 81. | Do. | .. | .. | .. | 1921. Mem. Qld. Mus., vii. |
| 82. | Do. | .. | .. | .. | 1921. Austr. Zoologist, ii., 2. |
| 83. | Do. | .. | .. | .. | 1922. Mem. Qld. Mus., vii. |
| 84. | Do. | .. | .. | .. | 1922. Austr. Zoologist, ii., 3. |
| 85. | Do. | .. | .. | .. | 1923. Rec. Austr. Mus., xiv., 1. |
| 86. | Do. | .. | .. | .. | 1923. Rec. Austr. Mus., xiv., 2. |
| 87. | Do. | .. | .. | .. | 1924. Mem. Qld. Mus., viii. |
| 88. | MCCULLOCH, A. R. & MCNEILL, F. A. | .. | .. | .. | 1918. Rec. Austr. Mus., xii., 2. |
| 89. | MCCULLOCH, A. R. & OGILBY, J. D. | .. | .. | .. | 1919. Rec. Austr. Mus., xii., 10. |
| 90. | MCCULLOCH, A. R. & WAITE, E. R. | .. | .. | .. | 1918. Rec. S. Austr. Mus., i. |
| 91. | MCCULLOCH, A. R. & WHITLEY, G. P. | .. | .. | .. | 1925. Rec. Austr. Mus., xiv., 4 |

92.	O'CONNOR, D.	..	..	..	1887. Proc. Roy. Soc. Qld., iii.
93.	Do.	..	..	..	1888. Proc. Roy. Soc. Qld., iv.
94.	Do.	..	..	..	1897. Proc. Roy. Soc. Qld., xii.
95.	OGILBY, J. D.	..	..	..	1885. Proc. Linn. Soc. N.S. Wales, x.
96.	Do.	..	..	..	1889. Proc. Zool. Soc., 1889.
97.	Do.	..	..	..	1889. Proc. Linn. Soc. N.S. Wales (2), iii.
98.	Do.	..	..	..	1889. Proc. Linn. Soc. N.S. Wales (2), iv.
99.	Do.	..	..	..	1890. Rec. Austr. Mus., i.
100.	Do.	..	..	..	1893. Ed. Fish. and Crust. N.S. Wales.
101.	Do.	..	..	..	1894. Proc. Linn. Soc. N.S. Wales (2), ix.
102.	Do.	..	..	..	1895. Nat. Science, vi., 35.
103.	Do.	..	..	..	1897. Proc. Linn. Soc. N.S. Wales, xxi.
104.	Do.	..	..	..	1897. Proc. Roy. Soc. Tasm., 1896.
105.	Do.	..	..	..	1898. Proc. Linn. Soc. N.S. Wales, xxi.
106.	Do.	..	..	..	1898. Proc. Linn. Soc. N.S. Wales, xxiii.
107.	Do.	..	..	..	1900. Proc. Roy. Soc. Qld., xxi.
108.	Do.	..	..	..	1903. Proc. Roy. Soc. Qld., xviii.
109.	Do.	..	..	..	1907. Proc. Roy. Soc. Qld., xx.
110.	Do.	..	..	..	1908. Qld. Naturalist, i., 3.
111.	Do.	..	..	..	1908. Ann. Qld. Mus., No. 9.
112.	Do.	..	..	..	1908. Proc. Roy. Soc. Qld., xxi.
113.	Do.	..	..	..	1909. Report on a large Fish destructive to Oysters.
114.	Do.	..	..	..	1910. New Fish, Qld. Coast.
115.	Do.	..	..	..	1910. Proc. Roy. Soc. Qld., xxiii.
116.	Do.	..	..	..	1911. Proc. Roy. Soc. Qld., xxiii.
117.	Do.	..	..	..	1911. Ann. Qld. Mus., No. 10.
118.	Do.	..	..	..	1912. Mem. Qld. Mus., i.
119.	Do.	..	..	..	1912. Fish. Rept. Qld., 1910-11. Appendix.
120.	Do.	..	..	..	1913. Mem. Qld. Mus., ii.
121.	Do.	..	..	..	1915. Commere. Fish. & Fisher. Qld. An Essay.
122.	Do.	..	..	..	1915. Mem. Qld. Mus., iii.
123.	Do.	..	..	..	1916. Mem. Qld. Mus., v.
124.	Do.	..	..	..	1916. Proc. Roy. Soc. Qld., xxviii.
125.	Do.	..	..	..	1918. Mem. Qld. Mus., vi.
126.	Do.	..	..	..	1920. Mem. Qld. Mus., vii.
127.	Do.	..	..	..	1922. Mem. Qld. Mus., vii.
128.	OGILBY, J. D. & McCULLOCH, A. R.	..	..	..	1909. Proc. Roy. Soc. N.S. Wales, xlii.
129.	Do.	..	..	..	1916. Mem. Qld. Mus., v.
130.	PALMER, E. G. W.	..	..	..	1902. Proc. Linn. Soc. N.S. Wales, xxvi.
131.	PARADICE, W. E. J.	..	..	..	1924. Med. Journ. Austr., ii., 25.
132.	PETERS, W.	..	..	..	1877. Monatsber. Akad. Berlin, 1876.
133.	RAFF, J. W.	..	..	..	1912. Zool. Res. Endeavour, part iii.
134.	RAMSAY, E. P.	..	..	..	1880. Proc. Linn. Soc. N.S. Wales, v., 1.
135.	Do.	..	..	..	1883. Proc. Linn. Soc. N.S. Wales, viii.
136.	Do.	..	..	..	1884. Proc. Linn. Soc. N.S. Wales, vii.
137.	REGAN, C. T.	..	..	..	1908. Ann. Mag. Nat. Hist. (8), i.
138.	Do.	..	..	..	1908. Proc. Zool. Soc., 1908.

- | | | | | | |
|------|--------------------------------|----|----|----|---|
| 139. | REGAN, C. T. | .. | .. | .. | 1909. Ann. Mag. Nat. Hist. (8), iv. |
| 140. | Do. | .. | .. | .. | 1914. Transl. Zool. Soc. (2), xx. |
| 141. | Do. | .. | .. | .. | 1917. Ann. Mag. Nat. Hist. (8), xix. |
| 142. | RICHARDSON, J. | .. | .. | .. | 1843. Icon. Pisces, v. |
| 143. | Do. | .. | .. | .. | 1844. Zool. Voy. Erebus and Terror, ii. |
| 144. | SAUVAGE, H. E. | .. | .. | .. | 1879. Bull. Soc. Philom. Paris (7), iii. |
| 145. | STEAD, D. G. | .. | .. | .. | 1907. Add. Fish Fauna N.S. Wales, i. |
| 146. | STEINDACHNER, F. | .. | .. | .. | 1867. Sitzb. Akad. Wiss. Wien, lv., 1. |
| 147. | Do. | .. | .. | .. | 1867. Sitzb. Akad. Wiss. Wien, lvi., 1. |
| 148. | Do. | .. | .. | .. | 1878. Sitzb. Akad. Wiss. Wien, lxxviii., 1. |
| 149. | Do. | .. | .. | .. | 1879. Sitzb. Akad. Wiss. Wien, lxxx., 1. |
| 150. | Do. | .. | .. | .. | 1879. Denks. Akad. Wiss. Wien, xli., 1. |
| 151. | TOSH, J. R. | .. | .. | .. | 1903. Proc. Roy. Soc. Qld., xvii. |
| 152. | Do. | .. | .. | .. | 1903. Parlt. Rept. Mar. Dept. Qld., 1902-3. |
| 153. | DE VIS, C. W. | .. | .. | .. | 1882. Proc. Linn. Soc. N.S. Wales, vii. |
| 154. | Do. | .. | .. | .. | 1883. Proc. Linn. Soc. N.S. Wales, vii. |
| 155. | Do. | .. | .. | .. | 1883. Proc. Linn. Soc. N.S. Wales, viii. |
| 156. | Do. | .. | .. | .. | 1884. Proc. Roy. Soc. Qld., i. |
| 157. | Do. | .. | .. | .. | 1884. Proc. Linn. Soc. N.S. Wales, ix. |
| 158. | Do. | .. | .. | .. | 1885. Proc. Linn. Soc. N.S. Wales, ix. |
| 159. | Do. | .. | .. | .. | 1885. Proc. Roy. Soc. Qld., ii. |
| 160. | Do. | .. | .. | .. | 1886. Proc. Roy. Soc. Qld., ii. |
| 161. | Do. | .. | .. | .. | 1887. Proc. Roy. Soc. Qld., iii. |
| 162. | Do. | .. | .. | .. | 1888. Ann. Rept. Qld. Mus. |
| 163. | Do. | .. | .. | .. | 1892. Proc. Roy. Soc. Qld., viii. |
| 164. | Do. | .. | .. | .. | 1911. Ann. Qld. Mus., No. 10. |
| 165. | WAITE, E. R. | .. | .. | .. | 1899. Mem. Austr. Mus., iv. |
| 166. | Do. | .. | .. | .. | 1899. Rec. Austr. Mus., iii. |
| 167. | Do. | .. | .. | .. | 1900. Rec. Austr. Mus., iii. |
| 168. | Do. | .. | .. | .. | 1902. Rec. Austr. Mus., iv. |
| 169. | Do. | .. | .. | .. | 1904. Rec. Austr. Mus., v. |
| 170. | WEBER, M. | .. | .. | .. | 1895. Zool. Forsch. Austr., v. |
| 171. | Do. | .. | .. | .. | 1913. Nova Guinea, ix., 4. |
| 172. | WEBER, M. & BEAUFORT, L. F. DE | .. | .. | .. | 1913. Fish. Indo-Austr. Archip., ii. |
| 173. | Do. | .. | .. | .. | 1922. Fish. Indo-Austr. Archip., iv. |
| 174. | ZEITZ, A. | .. | .. | .. | 1909. Trans. Roy. Soc. S. Austr., xxxiii. |



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